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PREREQUISITE FOR EMOTIONAL ADJUSTMENT: THERAP

"The most effective form of psychotherapy is to demonstrate to the patient that his seizures can be adequately controlled by the use of anticonvulsant medication.

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THE PARKE-DAVIS FAMILY OF ANTICONVULSANT

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PRIMARY PULMONARY HYPERTENSION

Marcy L. Sussman, M.D., Phoenix, Ariz.
Thomas J. Hughes, M.D., Tempe, Ariz.

PRIMARY pulmonary hypertension, once considered a rare condition, is now being recognized with increasing frequency. This is probably due in part to the fact that the diagnosis is established during life by cardiac catheterization, but there seems to be also an actual increase in the number of cases seen at autopsy. The condition is known under various titles including primary pulmonary hypertension, primary pulmonary arterial disease, primary pulmonary arterio-sclerosis, and related terms. The diagnosis is usually made by exclusion. The absence of lesions commonly accepted as causes of pulmonary hypertension such as mitral stenosis, chronic left ventricular failure, increased pulmonary blood flow, pulmonary emphysema, pulmonary fibrosis or granulomatosis, kyphoscoliosis, pulmonary embolism or thrombosis, among others, has justified the diagnosis. The subject has been recently reviewed by Dammin(1). Little will be added in the present report except to illustrate a typical case which, in common with other experiences in the literature, even pre-terminally presented features which raised some doubt as to the primary nature of the disease.

Dammin lists the clinical manifestations of primary pulmonary hypertension as follows, in decreasing order of frequency, "(a) a history of prolonged and often progressive exertional dyspnea, (b) fatigue, (c) syncope, (d) thoracic pain, particularly on effort, (e) cyanosis, (f) cough and (g) dependent edema." Orthopnea, paroxysmal dyspnea, and hemoptysis are usually absent. While these clinical findings might strongly suggest the condition, they are not characteristic of primary as contrasted with secondary pulmonary hypertension.

The disease has been reported predominantly in women and most patients have been under 40 years of age. All eight patients in Dammin's series were women. However, the present case was a male, and a case seen recently by one of the authors also was a male.

The following case is being presented because of the history and findings are characteristic and because the case was followed through many years to post-mortem examination.

Case Report

DKH was a white male born in 1928. He was seen in St. Lukes Hospital, Phoenix, in December 1957, at the age of 30.

In December 1955, the patient entered the VA Center, Sawtelle, Los Angeles, where he remained until March 9, 1956, there being a period of leave in the mid portion of this period. A detailed history was obtained in this institution, which is reported here practically verbatim:

"This 27-year-old white male bookkeeper states that he had rheumatic fever when he was 12 years old, manifested by swollen, painful

knees and ankles and requiring three months at bedrest, followed by one and one-half years of restricted activity. In 1948 he enlisted in the U.S. Air Force, passing his physical examination and being able to carry on normal activity with participation in sports. In 1949 he was re-examined and sent overseas, no abnormalities being found. In 1950 he re-enlisted in the air force and again no cardiac abnormalities were noted.

"In May 1951, he reported to sick call due to a mild gastro-intestinal upset. He was found to have a heart murmur and was transferred to Fitzsimmons General Hospital in Denver, Colo. He now admitted being short of breath. His workup at Denver included cardiac catheterization with the following results:

	Pressure	*0(2)Sat.*
PA	75/50	Clotted
RV 1	95/0	9.97
RV 2	95/0	Clotted
RA 1	10/0	9.21
RA 2	10/0	9.23
Femoral		18.74 (97 per cent sat.)
Cardiac output		3.7 L/min.
Cardiac index		2.18 L/min./sq.M

"Patient remained without symptoms except on two occasions. Following cardiac catheterization and immediately after moving to the x-ray table for angiograms, the patient experienced a short convulsion accompanied with asystole. Intracardiac epinephrine revived the patient rapidly. At another date, when angiograms were again attempted, the same episode occurred. Because of this, angiograms were not made on this patient. Prior to the initial episode, the patient had been given quinidine and before the next attempt, pronestyl. Cardiac catheterization showed evidence of pulmonary hypertension. Saturation of the femoral arterial blood before and after exercise was 97 per cent indicating no right to left shunt. Decholin arm to tongue circulation time was 38 and 37 seconds. Venous and right auricular pressures were not elevated. The exact nature of this man's cardiac lesion has not been established and there is some disagreement among various examiners. However, the consensus of opinion is that it is on a congenital basis rather than rheumatic. The most likely diagnosis was thought to be dilation of the pulmonary artery with pulmonary hypertension of unknown origin and secondary cardiomegaly."

He was discharged from the military service in October 1951, and advised to follow a low sodium diet. In January 1952, he began to suffer swollen legs and increased shortness of breath. He was started on digitalis and mercurials. His edema receded, but his dyspnea on extertion persisted. He moved to Phoenix, Ariz., where he felt better for several months.

His first reported medical contact in adult civilian life was in 1951 when a physician saw him because of slight ankle edema thought to be due to cardiac failure on the basis of congenital heart disease. He was started on chrystodigin 0.1 mg. (This information was supplied by Dr. James V. Yackley of Rapid City, S. D., He was not seen again until July 1953, when one of the authors (T.J.H.) saw him in cardiac failure. During the interim he apparently stopped taking digitalis, probably having taken it only for one month. On July 25, 1953, he presented severe dyspnea, cough, bloody sputum, severe edema, liver enlargement four to five fingers below the costal margin. He was given mercurials and digitalized. These medications resulted in relief of the heart failure. His blood pressure this time was 124/72.

In May 1955, he had an appendectomy with a stormy postoperative course. In October 1955, he again noticed swelling of his legs and shortness of breath and entered the Veterans' Hospital in Phoenix. He was transferred to Sawtelle for further workup. He had paroxysmal nocturnal dyspnea in the past. There had been no nausea or vomiting. The skin had been discolored for approximately two years. His urine had been growing dark, and he had never had chest pains. He had had hymoptysis three or four times in 1953, but none since.

Physical examination in October 1955, revealed a well-developed, alert, co-operative, well-nourished, slightly obese, stocky white male in no acute distress. He was slightly dyspneic. His height was 5'9", weight 170 pounds. The pulse was 112 and irregular. The blood pressure taken while sitting was 120/84 in the right arm. The skin was bronzed, and there was pigmentation in the skin over the legs from about the knees down. The sclera was icteric. The respiratory rate was 32 per minute and was shallow.

The heart showed the PMI in the sixth interspace in the anterior axillary line. There was systolic retraction. On palpation the PMI was in the same area as the thrust. The cardiac rate

was rapid and irregular. There was a systolic Grade II soft blowing systolic murmur. There was a split second heart sound (third heart sound). There was also a low-pitched diastolic murmur that occurred between the second and third heart sounds. The second pulmonic sound was loud and booming.

The abdomen was obese, soft and non-tender. There was a large palpable, non-tender liver, three fingerbreadths below the right costal margin on deep inspiration. The extremities revealed a slight cyanotic tinge of the nails. There was discoloration and pigmentation of the legs. There were bilateral varicosities and a trace of pitting edema. The remainder of the physical examination was essentially within normal limits.

Laboratory Data

Hemoglobin, 15.4 gms.; hematocrit, 43 cc.; SBC, 4,450 per c.mm; sedimentation rate, 5. On repetition, the hemoglobin was found to be 17.3 gms.; hematocrit, 51 cc.; WBC, 6,900. Serum electrolytes within normal limits. Fasting blood sugar 54 mgm. per cent. Albumin, 4.5 gms. per cent; globulin, 2.4 gms. per cent. Cholesterol, 158 mgm. per cent; 90 per cent esters. Serum alkaline phosphatase 9.3 units; C-reactive protein negative. Mucoprotein 2.6 mgm. per cent. Serum transaminase, 30 and 20 units. Direct Van den Bergh, 3.14 mgm. per cent; indirect, 1.14 mgm. per cent. Cephalin flocculation, 3 plus and 4 plus. Thymol turbidity, 5.3 units. Urinary urobilinogen, 18.7 and 42 mgs. for a 24-hour period. Prothrombin time 100 per cent. VDRL negative. L. E. Preps, negative x 3. Serum iron, 220 mcg. per cent; total iron-binding capacity, 320 mcrgms. per cent. Antistreptolysin titre, 250 Todd units on two occasions. Twenty-four-hour urine excretion for lead and arsenic within the limits of normal.

Roentgenologic Studies

Cardiac fluoroscopy and radiography revealed marked generalized cardiomegaly, marked enlargement of the pulmonary artery segment with slight pulmonary vascular congestion. An EKG revealed auricular fibrillation, right ventricular hypertrophy and digitalis effect; the sagittal loop was negative. Phonocardiograms revealed a third heart sound and suggested possible mitral stenosis. Skin biopsy showed only an accentuated melanin content in the basal cell layer. Venous pressure on admission, 275 mm. water with a rise to 360 mm. on hepatic compression; circulation time, 57 seconds with decholin and a well defined end point. Repeat venous pressure on Dec. 22, 1955 revealed a pressure of 260 mm. water with a rise to 310 mm. on hepatic compression; circulation time (arm-to-tongue) with decholin was 42 seconds. Fluoroscopy, including the use of intensification, revealed no evidence of valve calcification. There was marked right auricular hypertrophy, right ventricular hypertrophy and pulmonary artery enlargement.

Course in Hospital

The patient was put at bedrest with a low sodium diet and digitalis, grs. 1½ daily. He was given intermittent injections of mercuhydrin with a good response and loss of approximately eight pounds. His shortness of breath improved somewhat; however, he was still unable to exert himself freely without dyspnea. After a few days leave from the hospital, the patient returned complaining of a dry cough, sneezing and a dull substernal pain. This respiratory infection disappeared following symptomatic medication.

Cardiac catheterization was done on Jan. 3, 1956. The arterial blood capacity was 21.1 volumes per cent; saturation 83 per cent. Oxygen content in the superior vena cava was 42.7 per cent, and in the right auricle 46.4 per cent. Pressure in the superior vena cava 29/25 mm. of mercury, right auricle 28/22 mm. of mercury. The catheter was passed with ease into a very large right auricle, but could not be passed further apparently due to tricuspid insufficiency. It was felt that these findings excluded an interatrial septal defect.

On Jan. 23, 1956, the blood oxygen capacity was 20.68 volumes per cent; arterial saturation 89.6 per cent; pH 7.46 per cent; pCO_2, 28 mm. of mercury. These findings suggested an admixture of venous blood with respiratory alkalosis. This admixture, it was thought, could be due either to pulmonary vascular changes or to an actual right-to-left shunt. The former diagnosis was favored.

The patient was placed on Metacorten with some subjective but little objective improvement. On Feb. 10, 1956, the arterial saturation was 87.7 per cent with a pCO_2 of 23 mm. of mercury. On Feb. 23, 1956, the corresponding figures were 86.8 per cent and the pCO_2 was 23 per cent. On March 7, arterial blood samples showed a pH 7.46, ogygen saturation 82 per

cent, pCO2 27 mm. of mercury. The patient was ambulatory, but complained of some shortness of breath. He was discharged in incipient failure on digitalis. The pertinent discharge diagnoses included pulmonary arterial hypertension, arteriosclerosis of the pulmonary artery, cardiac insufficiency, and liver cirrhosis due to passive congestion.

The patient returned to Phoenix. He was kept free of edema by the use of a low sodium diet, Diamox and digitalis along with intramuscular mercurials. However, in about November 1957, his edema became progressively more marked and no longer responded to the above regimen. In December 1957, he noted gradual enlargement of his abdomen.

On Jan. 21, 1958, the patient was examined in the cardiac clinic of St. Lukes Hospital, Phoenix, Ariz. The history elicited was essentially as detailed above. He added that for the past three or four years, at least, he had noticed the development of slight blueness of his fingernail beds, most often following exertion, but particularly marked on first awakening in the morning. In the family history it was noted that the mother died at age 67 of "blood clot in the brain." Father died at age 74 of heart disease. One brother and one sister died of diabetes. Three brothers and three sisters are living and well. There is no family history of rheumatic fever. One of the sisters had a "blue baby" which died at the age of two days.

Physical examination on Jan. 21, 1958, by Dr. David Long revealed "a white male who is alert, co-operative and intelligent. He is obviously dyspenic and becomes markedly orthopneic. There is a slight blue tinge to his lips and also a faint blue tint to the proximal nailbeds of his fingers. There is a slight suffusion of the bulbar vessels in the eyes and also a definite yellow tint of the sclerae.

"*Thorax:* The thorax is symmetrical with equal respiratory expansion. There is visible systolic pulsation in the left mid-axillary line in about the sixth interspace. There is a palpable systolic thrust at the apex which is at the left anterior and mid-axillary line and also a systolic thrust palpable over the right ventricle as well as a palpable diastolic impact over the pulmonic area. The blood pressure is 120/90, the cardiac rhythm is grossly irregular as in that of atrial fibrillation at a rate of 84-90. Auscultation reveals a high-pitched, almost squeaking blowing systolic murmur which is maximal at the apex but audible over the whole precordium as well as high into the left axilla. The first mitral sound is not particularly accentuated. The second aortic sound is definitely diminished in intensity, the second pulmonic sound is markedly increased in intensity. There is a distinct third heart sound, the etiology of which confuses me. It is loudest at the base but seems to occur too long after the normal second sound to represent splitting of the second sound. It seems to occur a little too early to represent the opening snap of the mitral valve. At times during the examination, I thought perhaps I might distinguish a low-pitched diastolic murmur at the apex, but this cannot be confirmed by repeat auscultation. Pulsations are present and equal bilaterally in the radial and femoral arteries, but the pulse volume is diminished.

"*Abdomen:* Examination reveals it to be definitely protruberant, there is shifting dullness and a palpable fluid wave. The liver edge is palpated 4-5 fingerbreadths below the right costal margin in the midclavircular line, is rounded, very firm and not particulraly tender. The liver extends across the midline into the left hypochrondrium. I am unable to palpate or ballott any other solid organs or masses. There is a healed right lower quadrant scar.

"*Extremities:* There is no clubbing of the fingers. There is marked increased brown pigmentation of both lower extremities as high as the knee. There are marked varicose veins of both lower extremities, being perhaps more marked in the right leg. There is a 3-plus fairly firm pitting edema of both feet and lower legs."

X-ray examination of the chest reveals a tremendously enlarged heart with an extremely widened transverse diameter. There is evidence of marked right ventricular enlargement, but possibly also left. The right atrium appears dilated. There is marked prominence of the pulmonary artery without evidence of increased vascularity of the peripheral lung fields. There is no evidence to suggest left atrial dilatation. Electrocardiogram revealed atrial fibrillation and evidence of right ventricular hypertrophy and strain. The further laboratory data was as follows. Urine; amber, turbid, reaction 7, S.G. 1.025, faint trace of albumen, sugar negative, RBC rare, bile positive, mucous. Blood; hemoglobin 15.4 mg., WBC 6,000, sedimentation rate 14, corrected sedimen-

tation rate 14, hematocrit 47 cc., VDRL nonreactive, C-reactive protein negative, Antistreptolysin titre, 1,250 Todd units.

The patient was presented to the members of the catheterization team of St. Lukes Diagnostic Clinic on Jan. 27, 1958. After thorough evaluation of the past history and present physical findings as well as the available laboratory data, it was the concensus of the group that this man certainly deserved further diagnostic study. Inasmuch as he was presently manifesting evidence of congestive failure, it was recommended that the patient be given maximum medical therapy in an attempt to bring his congestive failure under better control. Various diagnostic possibilities were entertained including congenital heart disease with interatrial septal defect, rheumatic heart disease with mitral stenosis and possible tricuspid stenosis, as well as primary pulmonary vascular disease. The case material was presented to Dr. Robert Grant, chief of the cardiac section of the National Heart Institute, during his visit to Phoenix. It was his opinion that careful consideration should be given to the original diagnosis of primary pulmonary vascular disease as being the causative factor in this man's cardiac difficulties. He was in agreement that further diagnostic studies including catheterization should be carried out.

The cardiac failure in this patient could not be controlled medically and there was progressive deterioration. The patient died on April 9, 1958. Post-mortem examination was done by Dr. S. B. Silverman.

Final anatomical diagnoses: Marked pulmonary arterial and arteriolosclerosis.

Marked hypertrophy and dilatation of the heart (right side, cor pulmonale).

Dilatation of the main pulmonary artery.

Moderate dilatation and hypertrophy of the heart, left ventricle.

Marked chronic passive congestion and bile stasis of the liver.

Generalized visceral congestion.

Jaundice.

Bile nephrosis.

Dependent edema.

Marked ascites.

Details of the examination of the heart are as follows:

Heart: As viewed in situ, the heart is markedly enlarged, and measures over 20 cm. in transverse diameter. The epicardial surfaces show slight bile staining. The heart and lungs are removed en masse, and are opened in the direction of the blood flow, commencing with the venae cavae. The right auricle and its appendages are extremely dilated, and contain a large amount of clotted blood. The endocardium is intact. The tricuspid valve is normal apart from marked stretching of the valve ring. The right ventricle is markedly hypertrophied, being thicker at the base than the left ventricle. The pulmonic valve is normal. The main pulmonary artery and its major branches are markedly dilated, and these vessels reveal a moderate to moderately severe atherosclerosis. The lungs are described immediately below. The pulmonary veins are normal, and the left auricle and its appendage are moderately dilated. The mitral valve is normal. The left ventricle shows both dilatation and hypertrophy, with a rounding of the apex and a flattening of the papillary muscles. The aortic valve is normal. The aorta shows a normal circumference at the ring arch and diaphragm, with minimal atherosclerotic changes. The intima is bile stained. The coronary arteries arise normally, pursue normal courses, and where seen on the cut surfaces of the myocardium, are patent.

Microscopic Examination

Heart: Sections of the heart show evidence histologically of hypertrophy of both right and left ventricles. Some sections reveal an organized mural thrombus in the right auricular appendage.

Lung: The lungs show a severe atherosclerosis with calcification of the main pulmonary artery and its branches. As the vessels become smaller at the periphery, they show an endarteritis with a thickened intima and a reduced caliber to the lumen. Some of these vessels are completely occluded. The pulmonary parenchyma proper is essentially normal, although some "heart failure" cells are found in some alveoli, while others show recent hemorrhage.

Discussion

It would be presumptuous of us to comment extensively on the pathogenesis of primary pulmonary hypertension. Dr. S. B. Silverman, the pathologist in the present case, made the following note "This case is apparently one of primary pulmonary sclerosis, applying to a case of sclerosis of the pulmonary vessels in which none

of the conditions thought to favor pulmonary hypertension is present. The causes and mechanisms of development of this sclerosis of blood vessels have yet to be satisfactorily elucidated. Since 1909, pulmonary arteriosclerosis has been associated in the clinical and pathological literature with the name of Ayerza. Unfortunately 'Ayerza's Disease' has come to mean many different things to different writers. To some it is any case of cardiac failure associated with pulmonary arteriosclerosis. To others it means primary pulmonary sclerosis and to still others it is a clinical syndrome characterized by dyspnea, cyanosis and polycythemia. In view of the complete lack of definition, it would seem desirable from the pathologic viewpoint to avoid the use of this term altogether."

Dammin comments that the following lesions of the pulmonary arteries found in primary pulmonary hypertension, (a) the dilatation of the pulmonary artery and its major branches with intimal thickening, atheromatosis and atrophy of muscular components of the media, (b) acute arteritis with morphologic sequelae in the form of focal atrophy of the media involving the muscular and elastic fibers, (c) the plexiform lesion with endothelial proliferation, and (d) the arteriolar-capillary sinus-like formation, result mainly from pulmonary hypertension, and have been observed in secondary, as well as primary pulmonary hypertension. Thrombi observed in the pulmonary arterial system in cases of pulmonary hypertension, may occur on the basis of vascular alterations of these arteries produced by the pulmonary hypertension, for example atherosclerosis, arteritis, etc. Whether there is an anatomic basis for the disease in the sense that the pulmonary arterial system in such a patient differs from the normal is still controversial. The presence of a muscular media in pulmonary arterioles between the two elastic laminae has been described and is thought by Edwards to represent persistence of the fetal type of pulmonary arteriole. Another explanation has been offered under the title, "arterial achalasia."

The case here reported presented typical clinical, cardiodynamic and pathologic features. Prolonged and progressive exertional dyspnea, cyanosis, dependent edema were particularly in evidence. There were also a few episodes of hemoptysis which is a more unusual finding. Paroxysmal noctural dyspnea occurred occasionally. Pulmonary hypertension was found on cardiac catheterization seven years before death.

In common with other reported cases and other cases in our experience, the pressure in the pulmonary artery approximated that in the systemic circulation. In the present case, there was no evidence by catheterization of an intra- or extra-cardiac shunt. However such data obtained by catheterization, unless unequivocal and confirmed, should not rule out the diagnosis of primary pulmonary hypertension.

It is difficult to explain the early appearance of dyspnea which may be the only presenting symptom for some years except perhaps an alveolar diffusion defect*. There is no oxygen unsaturation even with exercise. The murmurs also are not simply explained and they are non-specific.

Summary

A case of primary pulmonary hypertension has been presented which was followed from an apparently healthy state in 1949 to death in 1958. The course was characterized by a recurrent and progressive right heart failure. The patient presented a typical clinical picture except that there was a history of rheumatic fever in childhood and the auscultatory findings at least to some observers, both early and late in the disease, were somewhat suggestive of mitral disease, but not substantiated at autopsy.

*This hypothesis is not substantiated in the studies of Paul N. Yu, Annals of Internal Medicine, Vol. 49, 1138, 1958.

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BLAST AND THERMAL EFFECTS, AND RADIOACTIVE FALLOUT*

By Capt. John H. McQuilkin, USN
Commanding Officer, U. S. Naval Radiological Defense Laboratory
San Francisco 24, Calif.

I. INTRODUCTION:

YOU have just heard Dr. Kinosita describe the results of the atomic bombings of Hiroshima and Nagasaki. These results were accomplished by single bombs whose yields were about 14 and 20 kilotons respectively. I was in Nagasaki a few weeks after its bombing and the impression I received is still a vivid one today. I'm sure that you are similarly impressed.

I want to take the next half-hour or so in delineating for you the predicted effects of a modern weapon as applied to a target complex such as San Francisco. This information will form the backdrop for the presentations of following speakers.

II. CHARACTERISTICS OF NUCLEAR EXPLOSIONS:

A. Introductory

Before getting down to actual cases, I think it would be helpful to review a few items to insure that certain fundamentals concerning nuclear weapons are understood.

B. Distribution of Energy in Nuclear Explosions

1. In the explosion of a conventional (TNT) bomb, nearly all the energy released appears immediately in the form of heat. Almost the whole of this converts into blast and shock. In a nuclear weapon, however, the situation is different for we get three main effects — blast, heat and ionizing radiation. Only about 85 per cent of the total energy released appears as heat (kinetic) energy. Some 50 per cent of the energy is utilized in producing blast and shock. The other portion, about 35 per cent, appears as thermal radiation; i.e., heat and light rays. This is a result of the very much higher temperatures attained in a nuclear, as compared to a conventional, explosion. The fraction of the energy emitted as thermal radiation varies with the nature of the weapon and with the conditions of the explosion, but for a weapon burst fairly high in the air, it is roughly one-third.

2. The remaining 15 per cent of the energy of a nuclear explosion is released as various nuclear radiations. Of this, about 5 per cent constitutes the *initial* nuclear radiation produced within a minute or so after the explosion. The final 10 per cent of the bomb energy is emitted over a period of time in the form of *residual* nuclear radiation. This latter comes from the radioactivity of the fission products themselves and that induced in the bomb residue by the reaction. The initial nuclear radiations consist mainly of gamma rays and neutrons. As you know, both of these can travel great distances through air and can penetrate considerable thicknesses of material. It is because these radiations can have harmful effects on people that they are an important aspect of a nuclear explosion. The spontaneous emission of alpha and beta particles and gamma rays from radioactive substances, such as the fission products, is a gradual process. It takes place over a period of time, at a rate depending upon the nature of the material and upon the amount present. Because of the continuous decay, the quantity of radioactive material and the rate of emission of radiation decrease steadily. This means that the residual nuclear radiation, due mainly to the fission products, is most intense soon after the explosion, but diminishes in the course of time.

C. Types of Nuclear Explosions

1. The immediate phenomena associated with a nuclear explosion, as well as the effects of shock and blast, and thermal and nuclear radiations, vary with the location of the point of burst in relation to the surface of the earth. For descriptive purposes, three types of burst are of note, although many variations and intermediate situations can arise in practice. The main types are (1) air burst, (2) surface burst, and (3) subsurface burst.

*Presented at the second 12th Naval District Symposium on "Medical Problems of Modern Warfare and Civil Disaster" U. S. Naval Radiological Defense Laboratory, San Francisco 24, Calif., June 19, 1958.

2. *AIR BURST:*

(a) Almost at the instant of a nuclear explosion, there is formed an intensely hot and luminous mass, roughly spherical in shape, called the "ball of fire" or "fireball." An "air burst" is defined as one in which the bomb is exploded in the air, above land or water, at such a height that the fireball does not touch the surface of the earth. For example, in the explosion of a 1-megaton bomb, the fireball may grow until it is nearly 5,800 feet (1.1 mile) across. This means that, to qualify as an air burst, the point at which the explosion occurs must be at least 3,000 feet above the earth's surface.

(b) The quantitative aspects of an air burst will be dependent upon the actual height of the explosion, as well as upon its energy yield, but the general phenomena are much the same in all cases. Nearly all of the shock energy appears as air blast, although if the explosion occurs close enough to the surface, there will also be some ground shock. The thermal radiation will travel large distances through the air and will be of sufficient intensity to cause moderately severe burns of exposed skin as far away as 12 miles from a 1-megaton bomb explosion, on a fairly clear day. The warmth of such an explosion may be felt at a distance of 75 miles. For air bursts of higher energy yields, the corresponding distances will, of course, be greater. Since the thermal radiation is largely stopped by ordinary opaque materials, buildings and clothing can provide protection. Fire, as will be described later, is the most devastating result of thermal radiation.

(c) The initial nuclear radiations from an air burst will also penetrate a long way in air, although the intensity falls off fairly rapidly at increasing distances from the explosion. As in X-rays, these nuclear radiations are not easily absorbed, and fairly thick layers of materials, preferably of high density, are needed to reduce their intensity to harmless proportions. For example, at a distance of 1 mile from the burst of a 1-megaton nuclear weapon, an individual would probably need the protection of about one foot of steel or four feet of concrete to be relatively safe from the effects of such radiations.

(d) In the event of a high or moderately high air burst, the fission products remaining after the nuclear explosion will be widely dispersed in the upper atmosphere. The residual nuclear radiations arising from these products will be of minor consequence on the ground. On the other hand, if the burst occurs relatively near the earth's surface, the fission products become incorporated with particles of earth. This dirt and other debris will thus be contaminated with radioactive material and may, consequently, represent a hazard to living organisms as they fall back to earth.

3. *Surface burst:*

(a) A "surface burst" is regarded as one which occurs either at the actual surface of the land or water, or at any height above the surface such that the fireball touches the land or water. The energy of the explosion will then cause both air blast and ground (or water) shock, in varying proportions, depending upon the height of the burst point above the surface. Upon this will also depend the amounts of thermal radiation and initial nuclear radiations escaping from the fireball. Relative to an air burst, there is a decrease in thermal radiation and an increase in initial nuclear radiations.

(b) The residual nuclear radiation represents a very significant hazard because of the large quantities of contaminated debris that result from explosion. It has been estimated that if only 5 per cent of a 1-megaton bomb's energy is spent in vaporizing soil, something like 20,000 tons of soil material will be added to the normal constituents of the fireball. This material is intimately mixed with the radioactive products of the nuclear device and is deposited later over the ground as fallout. Fallout can produce casualties over a wide area. For example, in the case of a powerful thermonuclear device tested on the surface at the Eniwetok Proving Grounds on March 1, 1954, the ensuing fallout caused substantial contamination over an area of 7,000 square miles. The contaminated area was roughly cigar-shaped extending 220 miles downwind and having a maximum width of 40 miles. Casualties can of course be incurred through the nuclear radiations emitted from the radioactive particles in the fallout. These radiations consist of alpha, beta and gamma rays. The effect of alpha rays is insignificant in producing early casualties. Beta burns, as was shown so dramatically by the experience in the Marshall Islands in March 1954 can produce casualties. However, gamma rays are expected to be the most serious casualty agent of the fallout.

4. *Subsurface burst:*

(a) If a nuclear explosion occurs under such conditions that its center is beneath the ground or under the surface of water, the situation is described as a "subsurface burst."

(b) In a subsurface burst, most of the shock energy of the explosion appears as underground or underwater shock, but a certain proportion, which is less the greater the depth of the burst, escapes and produces air blast. Depending upon the depth of the explosion, some of the thermal and nuclear radiations will escape, but the intensities will be less than for an air burst. However, fallout now becomes of great significance, since large quantities of earth or water in the vicinity of the explosion will be contaminated with radioactive fission products.

5. Although the three types of burst have been considered as being fairly distinct, there is actually no clear line of demarcation between them. It will be apparent that as the height of the explosion is decreased, an air burst will become a surface burst. Similarly, a surface burst merges into a subsurface explosion at a shallow depth, when part of the ball of fire actually breaks through the surface of the land. or water. It is nevertheless a matter of convenience to divide nuclear explosions into the three general types I have defined.

III. *THE WEAPON:*

As you have read in the papers and heard elsewhere, the weapons available today bear about the same comparison to the ones used on Japan as the Continental Mark III does to the Model T. I will use a *nominal* yield thermonuclear weapon as my first example – we say that 20 KT (the Nagasaki bomb) represents a nominal yield for a fission weapon – my example of today's model – one of the thermonuclear variety – will yield 15 MT. In this day of "super-figures" in budgets or otherwise, the term "megaton" tends to lose significance. Even the statement that this is 1,000 KT or 1 million tons fails to register in our minds. Perhaps it will help you to visualize this weapon if I tell you that a 15 MT bomb releases the same energy as the instantaneous detonation of a block of TNT – 10' x 10' in cross-section and 616 miles long. We will assume a surface burst for this type tends to maximize all types of effects and is the probable choice of any attacker.

IV. *THE TARGET:*

A. I have picked the San Francisco area as a target primarily because this symposium is being held here and many of you are familiar with the city and the surrounding area.

B. *Description*

In the downtown sections of San Francisco and other Bay area municipalities, a number of multi-storied, steel frame, earthquake resistant buildings have been erected. The type of structures found in the industrial district is largely of light, steel frame construction. A small proportion of dwellings are apartment type buildings while the remainder are one or two storied wooden frame buildings. Along the waterfront are docks and piers which handle heavy ship traffic.

Two of the more prominent man-made structures are the Bay and Golden Gate bridges. These connect San Francisco with the adjoining communities of Oakland and Marin County across the San Francisco Bay.

The waters of the bay, though reaching depths of 300 feet in isolated locations, are surprisingly shallow. Over 80 per cent of the water area is eight feet or less in depth making the possibility of a deep underwater detonation in the bay area improbable.

C. *Assumptions*

1. Hits on Treasure Island – located roughly in the geometrical center of the Bay area and because this target points results, for a 15 MT burst, in maximum casualties in the target complex.

2. The weapon is detonated during the working hours when the population of downtown San Francisco and Oakland is at its peak.

3. A 15-mph wind is blowing uniformly from the west.

4. The weather is fair and the day is moderately clear.

V. *THE RESULTS:*

A. *Limitations of the analysis*

1. A description of the results of a nuclear attack does not warrant a refined treatment for a multitude of reasons. For example, the effects of a nuclear weapon detonation on a target complex cannot be predicted with great accuracy because of the lack of knowledge of the weapon used, of the complexity of the target,

and of the actions of populace before and after the attack. The actual extent of fire damage is somewhat speculative. Prediction of radioactive fallout patterns is most uncertain and apparently will be for some time. Furthermore, I believe that you will be more interested in the order of magnitude of the effects than of details. For these reasons, my treatment will be broad in nature.

2. It has been necessary to make assumptions where data is meager. Since many of the parameters involved can have a wide range of values – for example, wind speed and direction – some of these parameters have been fixed. Whenever possible, however, values have been taken which appear to be realistic.

3. It must be recognized that a massive thermonuclear attack on the United States would probably involve the delivery of a considerable number of weapons in the Bay area. For simplicity's sake, my first example employs but one weapon.

B. *Immediate Effects*

1. The fireball would have a diameter of three miles, with temperatures within it of 10,000 degrees to 100,000 degrees C for a fraction of a second; all structures within it would be vaporized.

2. A crater would be formed with its center at the point of detonation. This would have a diameter of 3,000 feet, a depth of 200 feet, a lip height of 50 feet and a lip diameter of 6,000 feet.

3. Treasure Island would cease to exist. Yerba Buena would be swept clean if not effaced, and the Bay Bridge would be partially vaporized.

C. *Blast Damage*

1. Let's look first at the blast damage. In describing such damage, three categories are used. For our purposes they may be defined as follows:

(a) Severe: Essentially requires complete reconstruction.

(b) Moderate: Major repairs required on essential members such as truesses, columns, beams and load carrying walls before structure can be used.

(c) Light: That degree of damage which results in broken windows, breaking down of light interior partitions, cracking of curtain walls.

2. Damage criteria related to overpressure – the types of structures found in the San Francisco area varies and the degree of damage which may be expected for various values of blast overpressure will vary. Using these values, three zones of damage are evident.

3. The *inner zone* will be one of complete destruction and will extend to four miles from ground zero (at four miles, = 10 psi). If present within this area, even the strongest metropolitan buildings of earthquake resistant design would be destroyed. Ships and piers would be moderately to severely damaged by the blast and, in addition, one could expect a near tidal wave that would greatly augment waterfront damage. You will note that with Treasure Island as ground zero, most of the area of severe damage is over water. However, it can be expected that the remaining portions of the Bay Bridge, the parts that were not vaporized, would be completely demolished.

4. In the *intermediate* zone, whice will extend from four to eight miles from ground zero, the blast overpressures would range from 10 down to 4 psi. Skyscrapers, tenement and apartment houses, and industrial type, light steel frame buildings would be severly to moderately damaged by the blast. In some cases, the buildings would tumble down or the steel members would collapse; in other cases, walls would crack and roofs would fall while the structure would remain upright. Blast resistant structures would be only lightly damaged and bridges (Golden Gate and San Rafael-Richmond) might be passable following some minor repairs.

5. In the *outer zone*, which will extend from eight to 12 miles from ground zero, blast overpressures will range from 4 to 2 psi. Damage from blast will be light. Brick buildings would escape with cracked walls and broken windows; however, wooden frame buildings will still suffer severe structural damage. Beyond 12 miles, very little blast damage will occur.

D. *Thermal Radiation and Fire Damage*

1. While the blast damage I have described is considerable, an even greater amount of physical damage would be caused by fires resulting from the thermal radiation emanating from the fireball. It should be recognized that from such a weapon we can expect a thermal pulse extending over a time interval of almost 20 seconds

and producing a total flux of 10 calories/cm² at about 14 miles from the detonation and even four calories/cm² at 22 miles.

2. Laboratory and field tests have shown that certain materials found in cities are highly susceptible to ignition from such thermal radiation. These materials include old newspapers, dried grass, mops, draperies and curtains hanging in windows, rotted wood, etc. These materials may ignite at thermal energies as low as four cal/cm² and are almost certain to ignite at 10. Such kindling fuels are extremely abundant in all American cities and, in the event of a nuclear attack, they would be the points of ignition from which larger fires would develop.

3. That these are not just theories can be proved from Hiroshima experience. There, primary ignitions occurred 7,000 feet from the detonation where the thermal energy was of the order of five cal/cm². One might argue that Hiroshima was more susceptible to such primary ignitions than American cities would be, but we doubt this to be the case. For substantiation, I refer you to your own home and back yard.

4. In any event, it is highly unlikely that surviving fire departments could extinguish the many burning ignition points within the city, both inside and outside buildings, even assuming they could reach them. Nor is it likely that the city's inhabitants could do so during the period of confusion.

5. As a catastrophic aftermath of these many individual fires, we can confidently expect a firestorm. This is borne out by experience at Hiroshima and by the results of conventional air raids during World War II on such towns as Hamburg and Tokyo. With the inability to extinguish the individual fires, they will rapidly coalesce and a firestorm will ensue. At the center of this firestorm a thermal column will form to vent the hot gases. In the Hamburg firestorm, following an incendiary bomb attack, the central column was more than 2½ miles high and 1½ miles in diameter. The rapid venting of hot and burning gases caused an inrush of new air at the base of the column, resulting in a fire wind that reached gale-like proportions as it headed toward the fire center. In this fire wind area, trees of three feet in diameter were uprooted. The time sequence was rapid. Twenty minutes after the bombs were dropped on Hamburg, the fires had coalesced to form a firestorm. Three hours later it had already subsided as the fuel became consumed. Again at Hiroshima, the time between bomb detonation and the peak of the fire ran about 20 minutes.

6. In view of the large areas involved, our probable inability to do much about it and the shortness of time, it is considered that a major portion of the Bay area would be consumed by flames.

E. *Fallout*

1. I am not going to spend any time on figures regarding immediate ionizing radiation coming from this hypothetical detonation. Suffice it to say that the area involved is within the 15 mile radius where blast and fire are going to be the major problems confronting the populace.

2. Fallout — the tens of thousands of tons of radioactively contaminated soil lifted out of the crater made by the weapon — is another problem. We could expect this material to be deposited over a wide area which would extend in the downwind direction to 300 miles or more in a pattern over 100 miles wide.

3. In charts, the dose rate contours indicate the intensity of the radiation field in r/hr at one hour after detonation. This is a convention used in this type of work. You must remember that in most of the area, fallout will not arrive until much later. With our assumed 15 mph wind, fallout arrival in the vicinity of Stockton, for example, will not be until about four hours after the burst. In computing the radiation dose that people would get at any given location in the area, a number of things must be considered: (a) Time of arrival of fallout, (b) Intensity at that time, (c) Protective measures they take, such as, (1) Shelter, (2) Escape — direction and rate of travel, (3) Combination of the two.

4. Based again on a set of assumptions such as travel at right angles to the major axis of the fallout pattern, a rate of travel of two miles per hour (takes into account warning, traffic jams, etc.) is assumed for evacuation beginning at the time of arrival of fallout, etc., The dose that would be accumulated by a person starting his escape at any point in the fallout area and escaping as described would be about 600 *r*. The areas covered by a lethal dose are appalling, measuring as they do almost 2,500 square miles.

VI. *ALTERNATE ATTACK ON BAY AREA:*

A. I should point out again that this example of a single 15-MT weapon was chosen for its simplicity in presentation. However, its use in an attack on the San Francisco Bay area is somewhat inefficient. Most of its power is wasted over the water areas separating the two main centers of population and concentrated activity. Two 1-MT thermonuclear weapons, one detonated over San Francisco and the other over Oakland, would cause about as much destruction as the single 15-MT weapon.

You should appreciate, too, that weapons of this yield range can be delivered either by missile or by relatively small aircraft. Both San Francisco and Oakland per se would cease to exist.

B. The fallout from these weapons would compare roughly with that from the single larger one.

VII. *CONCLUSION:*

The results of a thermonuclear attack on any city in this or any other country would be, as you can see, rather appalling ones. Even one such attack as I have described would severely tax the capabilities of a large area surrounding the target both as to facilities and personnel. An all-out attack on the country could well result in a paralysis from which recovery would be measured in months or years. My description has, of course, been confined to effects and physical damage.

CONTACT DERMATITIS FROM CASHEW NUT SHELL NOVELTIES

By Donald J. McNairy, M.D.
Phoenix, Ariz.

IN THE PAST few years, souveniers and novelties from tropical countries have been imported in increasing numbers. One of the more recent to catch the public fancy is the Haitian Voodoo Doll. This bar accessory consists of a cashew nut shell head, roughly hand carved, dressed and mounted upon a wooden stirring rod. These engaging little figures have been supplied at discriminating bars as beverage "swizzle sticks" and, because they are unusually attractive novelties, not infrequently became toys fondled by small children.

The purpose of this paper is to report three cases of severe contact dermatitis venenata reactions occurring in laboratory workers who were requested to test Voodoo Doll swizzle sticks by a distributor of these items in order to determine whether his stock in trade was to remain marketable or whether it must be confiscated as recommended by the U. S. Public Health authorities. It should also alert all physicians to the possibility that unknown numbers of these frequently sensitizing wooden articles may be at large and will, no doubt, from time to time be responsible for acute dermatitis of the hands, arms and face.

CASE REPORTS:

On Nov. 26, 1958, the Arizona State Department of Health received a request to determine the possible toxicity reactions from contacting imported Haitian Voodoo Doll swizzle sticks. Accordingly, two of the laboratory workers crushed the cashew nut shell heads, extracted the oil contained in the material and innoculated the skin of laboratory animals. During this procedure, shell fragments and materials scattered extensively, settling on desk and counter tops. A file clerk, entering the laboratory at that time, recalls resting her forearms on the counter surface. Within 30 minutes, she noted burning and pruritis of the ventral right forearm. The latter was relieved partially for several days with calamine lotion, then became acutely vesicular. When examined on Dec. 8, 1958, an irregular bullous eruption with considerable associated erythema and edema involved an area roughly 10 cm. in diameter in this location. There was temporary improvement on a program which included cool aluminum acetate compresses, a shake lotion and parenteral antihistamines. Four days later, the vesiculation and eczematoid features became more acute, and an erythematous, macular to confluent dermatitis with edema and pruritis appeared on the face, neck and chest. The patient became extremely apprehensive. Work was discontinued, bed rest ordered, and systemic corticosteroid therapy administered. With this program, the acute features were controlled, and conditions gradually returned to normal over a six-week period.

The two laboratory workers developed similar ventral forearm dermatitis within several hours of contacting the sensitizing materials. In one, the usual local therapy was curative in three weeks time without loss of work. The other had developed extensive vesiculation and edema of the forearms and generalized autoeczematization when first examined. This required large doses of corticosteroids and supportive bed rest with local cutaneous therapy for two weeks, then a similar period of gradual reduction in steroids and activation to a normal work schedule. This individual was extremely apprehensive and required considerable reassurance during the therapy regime.

In two cases there was a past history of sensitization to poison ivy or poison oak. The third patient is native to Arizona. She does not recall having had acute dermatitis previously, although not certain of early childhood.

DISCUSSION AND COMMENT:

The cashew tree is extensively cultivated in Brazil, India and many tropical countries.(1, 2) The kernel, which is nonsensitizing, is a common edible food. The shell contains approximately 35 per cent oil, a valuable material utilized in the manufacture of varnishes, floor tiles, brake linings, cements and many other products. (3, 4) Since the cashew tree is botanically related to poison ivy (Rhus radicans), poison oak (Rhus toxicodendron) and other dermatitis-producing plants, it possesses similar sensitizing

properties. Individuals contact-sensitive to any one of the group will be allergic to the rest, since there is a common presence of phenols with 15 carbon side chains in all,(5) and these phenolic constituents have been identified as the allergenic constituents of the plant group. Cashew nut shell oil contains this allergen. In addition, it is a strong primary irritant when patch tested in undiluted form.

We wish to call attention to the fact that in two of these three cases, the allergic dermatitis assumed violent proportions with marked vesicular to bullous reaction, edema and autosensitization features. Worry, "fear of the unknown," superstition regarding Voodoo characteristics, may have contributed psychosomatic elements. It is to be noted that in one individual, disturbing dreams culminated in her being taken to a hospital emergency room at 2 a. m. in a state of panic, expressing fear that she was about to die. All three patients displayed marked apprehension at the height of the cutaneous inflammatory stage of their dermatitis.

Present reports from the U. S. Public Health Service(6) indicate that while many of these novelties may be as yet distributed among the population at large, all available sources of supply are being eliminated in this country and at their source by the Haitian Public Health Service as rapidly as possible.

A recent article by Orris(7) describes a similar acute dermatitis in four boys who received toy burros, made from cashew nut shells, brought back from Puerto Rico as gifts by one of them. Thus, it is possible that cashew nut shell novelties may be seen in a variety of forms in this and other countries in the future.

SUMMARY:

Three cases of acute contact dermatitis from cashew nut shell oil are presented. The source of contact is a common novelty import – a Haitian Voodoo Doll mounted upon a stirring rod for drinks. An index of sensitization similar to that of poison ivy or poison oak can be anticipated.

Since large numbers of these items have been distributed in this country, additional instances of dermatitis venenata can be anticipated in the future.

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THE HOLISTIC APPROACH TO PERIPHERAL VASCULAR DISEASES*

J. Cuthbert Owens, M.D.
University of Colorado School of Medicine

THE most important aspect of the treatment of peripheral vascular diseases is the appreciation of the findings at complete examination of the arterial, venous, lymphatic and nerologic systems, which are so frequently interrelated anatomically, physiologically and pathologically. Early recognition of these germane changes and the establishment of a proper diagnosis are essential for specific therapy, although symptomatic treatment may be the only relief for many patients.

Almost as important is recognition of allied and associated diseases which cause or contribute to the vascular problem. By such holistic therapy, patients can obtain alleviation not only of their presenting complaints but also of their underlying disorders.

PERIPHERAL ARTERIAL OCCLUSIONS

Arteriosclerosis obliterans, arteritis and acute peripheral arterial occlusion due to embolism, thrombosis or trauma, are the three most common disorders in this group. Vasospasm may be superimposed on any of these conditions, or may be a separate entity.

ARTERIOSCLEROSIS OBLITERANS is the most frequent of all peripheral vascular diseases. Symptoms are most often manifested in the lower extremity, but are brought into a broader therapeutic perspective by such conditions as transient hemianopsia, aphasia, and other manifestations of partial, extra cranial carotid artery occlusions; intermittent abdominal angina, with superior mesenteric artery narrowing; and hyppertension or urinary changes resulting in occlusions of the renal artery. The histopathological picture may vary, but for general consideration, we divide these changes into segmental, for which treatment is chiefly surgical, and diffuse small-vessel or large-vessel arteriosclerosis, for which treatment is chiefly medical.

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Lower Extermity
Medical Treatment

1. *Education.* Each patient is given a detailed instruction sheet which explains the nature of the disease and the manner whereby he can protect his feet; this material is repeatedly discussed with him. Prophylaxis is stressed, since most foot lesions originate in minor injuries and are preventable.

2. *Foot Care.* The statement "Don't put anything on your foot you wouldn't put in your eye!" is qualified by advising mild soap and water daily ("If you wash your face, wash your feet"), alcohol and talcum in the morning, and lanolin or Aquaphor at bedtime to avoid dryness or cracking. Cutting of toenails, calluses or corns should be done by the physician or a responsible podiartrist at indicated regular intervals. The patient should be warned of the dangers inherent in loss of sensation with or without foot drop. Proper shoes, preferably leather with hard toe and heel, are prescribed, to be worn with soft wool socks; at each visit footwear is carefully checked, and the patient is constantly warned of possible trauma from shoes or socks.

3. *Diabetes.* Each patient is checked for diabetes by a routine urinalysis, a fasting blood sugar determination and possibly a glucose- tolerance test. The physician should be certain of diabetic control.

4. *Weight Reduction.* Strongly advised for the obese patient.

5. *Tobacco.* Abstinence is highly desirable; however, if this is difficult despite good doctor-patient relationship, it is no longer mentioned.

6. *Buerger's Exercises* are demonstrated, and the patient is ordered to repeat these at least six times during each of three periods a day.

7. *Pain* may be of four types:

(a) Night cramps are relieved or prevented by quinine sulfate 5 grains or Benadryl 50 mg., orally before bedtime.

(b) Intermittent claudication, a classic sign of muscle ischemia, should be differentiated as

to location in foot, calf, thigh or buttocks; the site of the pain will locate the site of the partial or complete occlusion as proximal to the claudication area, except in diffuse small-vessel occlusion. The patient is encouraged to walk greater distances, stopping when pain occurs and then continuing. Such exercise increases the distance before claudication occurs and assists the patient in adjusting to his condition. Raising the heels of the shoes reduces the demand on the calf muscles and gives relief. Many of these patients, especially in the younger group, are excellent candidates for arterial surgery, particularly when other symptoms or signs of arterial insufficiency are minimal or lacking.

(c) Superficial foot pain (causalgic) is variable in description and location on the foot or ankle, but can be best characterized as a superficial burning pain with hyperesthesia, sometimes severe enough to be disabling. It is easily identified and readily relieved temporarily, or in some patients permanently, by intra-arterial Priscoline 10 to 20 mg. into the femoral artery. Priscoline injection is also an excellent means of estimating the progress of an ischemic foot; if pinking occurs, the outlook is good. Oral sympatholytic drugs such as Priscoline 50 mg. 3 to 5 times daily, Hydergine 0.5 to 1 mg. sublingually 4 to 6 times a day, Ilidar 25 to 100 mg. 3 times a day, or Arlidin 6 to 12 mg. 3 times a day are also beneficial. Causalgic pain responds very favorably to paravertebral procaine lumbar sympathetic nerve injection or lumbar sympathectomy in patients with recent trauma, infection or ischemic ulcers. Gratifying symptomatic response is frequently erroneously attributed to increased circulation.

(d) Ischemic neuritis, a disabling deep foot or leg pain frequently requiring hospitalization, is probably the most difficult to treat. Rest and sedation often bring relief. When edema is present, any focus of infection is cleared by heavy antibiotics parenterally and moist saline soaks plus elevation with foot movements; this is the only indication for elevation of an ischemic leg. Relief frequently follows subsidence of the edema. If the patient insists on hanging the extremities over the side of the bed, continuous epidural anesthesia may be undertaken for 24 hours, or injection of the involved peripheral nerve with 1 per cent procaine until the edema subsides. Seldom is amputation required; necessity is indicated by a viable but non-functioning extremity.

8. *Vasodilatation.* Contrast baths are seldom advised, because so many patients have decreased sensation on the feet; the benefit of this treatment does not outweigh its danger. Heat to the trunk or uninvolved extremities may be beneficial. Electric blankets or warm rooms (80 to 85°F.) are advised. Alcohol by mouth, 1 to 2 ounces 3 times a day, is suggested for its mild sedative effect and vasodilatation, but caution accompanies the prescription. Oral vasodilators are occasionally given a 2-week trial to relieve possible vasospasm; varying responses may be reported with these drugs, so that a combination has infrequently been prescribed.

9. *Bed Elevation.* Raising the head of the bed 4 to 6 inches with blocks during sleep and rest periods assists circulation by means of gravity.

10. *Foot Cradles or Foot Boards.* Cradles are not used, either with or without heat. Danger of striking a limb against the cradle is too great, and extremes of temperature are contraindicated. Foot boards are necessary, especially when the head of the bed is elevated, and serve the purpose of keeping the covers off the feet.

11. *Nutrition.* Basic concepts regarding faulty food habits are checked, and supplementary vitamins are prescribed if necessary. A low animal fat diet, not exceeding 60 grams per day, or substitution of vegetable fats, is encouraged for all patients with arteriosclerosis obliterans.

12. *Infection.* Any infection on an ischemic foot is so serious a complication that the patient is considered for admission to the hospital. Progressive damage leads to gangrene unless it is handled with the utmost precise care. Warm inflammation has a good prognosis, cold inflammation a poor one. Fungicidal agents are used initially on ulcerations to assist later antibiotic therapy; we advise potassium permanganate solution 1:10,000, 3 times a day. Edema may be reduced by elevation — the only indication for elevating an ischemic leg. Moist wounds are kept moist with bland solutions at body temperature, and the surrounding skin is lubricated once or twice daily with lanolin to prevent maceration. Any ointment applied should be bland (neomycin, bacitracin). Dry gangrene and ulceration are kept dry. Procaine penicillin 600,000 units is given intramuscularly twice daily, or other antibiotics in massive dosage parenterally.

For the resistant ulcer, intra-arterial histamine, 2.75 mg. of histamine diphosphate in 250 cc. of 5 per cent glucose and saline for 6 days, has been successful. Antibiotics against organisms susceptible on culture may be aded to this solution. Sympathectomy is performed when indicated.

Surgical Treatment. Four surgical procedures should be considered, according to physical findings:

1. *Sympathectomy.* Lumbar sympathectomy is a safe and relatively simple procedure to abolish vasospasm and to aid in the development of collateral circulation. Much can be done to delay sympathectomy, and seldom is it performed without clinical determination of possible results. The only reliable methods of predicting benefits from sympathectomy are chemical sympathetic denervation with an intra-arterial vasodilator (Priscoline 10 to 20 mg.) or 1 per cent procaine paravertebral sympathetic block. If one of these procedures brings a marked increase of warmth and circulation, especially with temporary return of pulses to the foot, the patient should instead be considered for direct surgical approach to the artery for relief of the occlusion. Indications for sympathectomy are (1) evidence of sympathetic overactivity such as arterial spasm with peripheral foot pulses varying from day to day, coolness of the foot, increased sweating of the foot and superficial pain with hyperesthesia of burning nature, and (2) ischemic ulcers slow in healing with advanced age and diffuse small vessel involvement. Sympathectomy is almost always contraindicated in patients with dependent rubor or more marked ischemic changes. Emergency sympathectomy is rarely, if ever, performed. Prophylactic sympathectomy has little justification.

2. *Arterial Surgery.* Arteriograms or translumbar aortograms with 35 to 50 per cent Urokon may be necessary for additional interpretation. Indications for these procedures must outweigh possible complications.

In general, three types of operations are available in partial or complete segmental occlusion: (a) thromboendarterectomy, dissecting out the involved intima and obliterative segment and suturing the wall; (b) excision of the affected segment and replacement with a venous autograft, arterial homograft, or synthetic prothesis; or (c) by-pass operation, an arterial homograft or synthetic prosthesis being sutured above and below the vascular occlusion.

Results of these procedures depend on the judgment and technical ability of the surgeon, plus the assurance of a patent vessel distally. Routinely, unless contraindicated, any patient who has developed his occlusion due to acute or chronic thrombosis and is considered liable to thrombosis of other arteries is placed on long-standing anticoagulant therapy.

3. *Incision and Drainage.* Exen the most minimal area of pocketed infection is gently unroofed for proper drainage. Deep abscesses are incised and drained, and all necrotic tissue is debrided, especially in diabetics. If underlying infection is present, the eschar is softened with bland ointment and then excised. Occasionally a sympathetic denervation is indicated; otherwise there is no immediacy in therapy except to prevent progression, unless amputation is deemed advisable. Enzymatic debridement of necrotic ulcers with Tryptar powder or ointment, or Varidase solution or jelly, 3 times a day, followed by daily mechanical debridement, is beneficial. Anti-inflammatory agents orally or intramuscularly have shown some advantage in resistant cold inflammation in obtaining subsidence of swelling and redness. Superficial gangrene or osteomyelitis may necessitate debridement to determine whether the extremity can be saved from amputation.

4. *Amputation.* The use of intra-arterial Priscoline or histamine may assist in therapy and also in prognosis. If pinking of the foot and toes occurs, conservative therapy is continued; if, on two separate injections, pinking progresses only to just below the knee, amputation is undertaken as soon as possible to avoid a long hospitalization in the attempt to save a leg already lost. The present trend is toward amputation at a lower point, preferably midleg or transmetatarsal, because of lower mortality rate, preservation of the knee joint with better prospect of rehabilitation, and minimal or absent stump pain. Types are single or multiple toe, transmetatarsal, supramalleolar (palliative in poor-risk patients, with a possible higher amputation later), midleg and thigh. In all above-the-knee amputations, a superficial femoral vein ligation is performed on the amputated side.

Carotid Artery. Any patient with central nervous system symptoms and signs should be eva-

luated as to extracranial carotid pulsations, as in the other peripheral arteries. Embolus or thrombus formation in cervical carotid arteries may be present not only in strokes, but also in patients presenting aphasia, extremity sensory disturbances, hemiparesis, monocular blindness and hemianopsias. All of these may be of transient nature.

Possible surgical procedures are thromboendarterectomy, resection and reanastomosis, or resection and grafting. As with the extremities, long-standing anticoagulant therapy should be considered, whether or not definitive arterial surgery is performed, to reduce the occurrence of additional thrombosis later.

Superior Mesenteric Artery

Mesenteric Vascular Occlusion may be either arterial or venous or both; differentiation and diagnosis may be difficult. Arterial occlusion presents a pale-appearing bowel, while venous occlusion presents an engorged, bluish, edematous bowel. No matter which side occludes first, ultimately both are occluded. Spasm in a propagating thrombus should be considered, as in the extremities. Partial ischema to the bowel due to arteriosclerosis of the superior mesenteric artery resulting in intermittent abdominal pain is more difficult to diagnose. Pain after meals and positional relief are the characteristic symptoms; constipation and or diarrhea with blood in the stools may be the presenting sign. Abdominal exploration may be rewarding. Correction of such an occlusion by arterial surgery is a promising procedure requiring further clinical investigation, not only to relieve the complaints, but also possible to prevent later bowel necrosis.

Renal Artery. Renewed interest in the investigation of renal origin of hyptertension has resulted from findings in widespread studies of lower extremity arterial occlusion. Aortography and physical examination have occasionally revealed either partial occlusion of the renal artery or ascending thrombosis of the abdominal aorta following Leriche syndrome. Patients with unexplained hypertension, particularly in the age group before 25 and after 50 years of age, should be investigated for possible renal artery occlusion. Treatment requires increasing the blood supply to the kidney by definitive arterial surgery, nephrectomy to reduce hypertension, or continued anticoagulant therapy to prevent propagation of any thrombosis.

ARTERITIS

Arteritis includes a group of inflammatory diseases of the arteries which are difficult to classify, and as a group are more common than is generally realized. These may be associated with various underlying diseases, such as the collagenous group, or with allergies to toxins, proteins, antigens, and even some medications. Any area of the body may be involved with protean findings. The inflammation is usually localized to small or medium-sized vessels. Muscle biopsy including a small artery is frequently necessary for diagnosis, except when arteritis is localized to major arteries.

Treatment for *generalized arteritis* is basically symptomatic, and is directed to the removal of the sensitizing factors. In acute episodes, Cortisone 200 to 300 mgm. daily, Prednisone 40 to 50 mgm. daily is given until symptomatic relief is obtained, then the dosage is decreased until maintenance is established. Temporal and cranial arteritis, although localized, should receive similar corticoid therapy early, lest blindness ensue. Biopsy of the temporal artery brings diagnosis and sympomatic relief.

In the extremities, prophylaxis and attention to possible arterial occlusion may be required. Sympathetic denervation is occasionally advised, to protect against symptomatic complaints and arteriospasm. Further treatment should be directed toward the system most involved. Some patients may require anticoagulants in the form of coumarin drugs for long-term relief.

A second group, *localized arteritis,* includes those due to anatomical factors or direct trauma, such as crutch arteritis, adductor-canal arteritis or thrombosis, or pressure of a cervical rib resulting in arteritis or thrombosis. Takayusu's syndrome, "the pulseless disease" a process of chronic arteritis obliterans involving the arteries which arise from the aortic arch, should be included in this group, although its cause is unkown. Treatment consists of removal of anatomical causes of trauma and definite surgical therapy.

A third type of arteritis, thromboangiitis obliterans, may be *either local or generalized* in its manifestations. It is recorded less frequently today, probably because of our better understanding of the diagnosis of arterial disease. We believe that this complaint is a thrombotic complication of arteritis.

ACUTE PERIPHERAL ARTERIAL OCCLUSIONS

Acute peripheral arterial occlusions are emergencies in medicine and surgery which demand early and accurate diagnosis, followed by prompt treatment. Signs and symptoms depend on the site of the occlusion, the extent of the occlusion, the propagation of the associated thrombus and the proper timing and selection of appropriate treatment.

Embolism, thrombosis or trauma (with or without laceration) may produce arterial occlusion. Heart disease is the most common cause of embolus; atherosclerosis is the most common cause of arterial thrombosis. The outlook for an embolus is better than that for a thrombosis, since the thrombus occludes over a larger area, usually in a vessel which shows extensive vascular disease.

Extremities and Aortic Bifurcation. Popliteal and femoral vessels are the most common sites for arterial emboli. Occlusion of the upper-extremity arteries seldom results in loss of part, even without treatment. The embolus lodges at a point of bifurcation, because of the decrease in the caliber of the vessel. Objectives of treatment are:

1. *Relieve Arterial Spasm.* Arteriospasm may be relieved by intra-arterial Priscoline 10 to 20 mg.; paravertebral sympathetic blocks intermittently or continuously; continuous epidural or spinal anesthesia; or sciatic or median nerve perineural infiltration. Caution must be exercised in diagnosis and treatment if the patient is in shock or has a lowered blood volume.

2. *Protect Extremity From Trauma* with cotton wadding and board to the foot of the bed. The extremity is then placed in dependent position by elevation of the head of the bed on blocks.

3. *Anticoagulants* are administered immediately – preferably heparin 75 to 100 mg. intravenously every 4 hours; anticoagulant therapy not only prevents further emboli, but may also save the extremity, obviating surgery. If operation is contemplated, heparin may be hazardous, and Dicumarol or some other coumarin drug is prescribed. If the patient has an embolus, plasma levels of 30 prothrombin time per cent are desirable during surgery to protect against other emboli.

4. *Surgery.* The golden period is within 10 hours after occlusion. Later exploration is warranted in the delayed case only if distal patency can be clinically demonstrated. Operation is definitely indicated for patients with embolus to the bifurcation of the aorta or the common iliac. The operation is begun below the clinically occluded site to extract the propagating thrombus or additional emboli and to assure a patent distal vessel. Multiple incisions and retrograde flushing of the distal arterial bed to extract emboli and thrombi may be required. Patients with arterial emboli or thrombi are continued on anticoagulants even after operation to minimize the danger of a second thrombus or embolus elsewhere.

When viability and function return under conservative treatment, definitive arterial surgery is considered. Deep pain may necessitate fasciotomy or amputation; superficial pain is relieved by sympathetic denervation.

In either medical or surgical treatment, consider the cause. In arterial injury, occlusion is due to local factors alone; return of circulation is highly possible and should always be sought, no matter what the time element, short of actual gangrene. However, in embolus or thrombosis, inherent diseases are already present, and time is of the essence. Before undertaking any procedure, we need to consider not only the part, but the body as a whole. Anticoagulants, vasodilators, sympathetic blocks and surgery all have their uses. Treatment should be for function; viability does not mean return to function.

VASOSPASTIC DISORDERS

Raynaud's Phenomenon. The most common dermal vasospastic condition is Raynaud's phenomenon, an intermittent pallor or cyanosis of the extremities followed by a reactive hyperemia, with pain in the digits involved during the latter transitory phase. The condition is found most frequently in young females and is precipitated by exposure to cold, trauma or emotional stress. There is no clinical evidence of blockage of the large peripheral vessels, and nutritional lesions are absent or limited to the skin. The seldom-seen primary group is loosely termed "Raynaud's disease"; the secondary group includes disorders due to associated and allied conditions. Closely related are acrocyanosis and livedo reticularis.

Treatment of Raynaud's phenomenon is generally concentrated on protection from exposure to cold, trauma, and emotional stress.

Medical Treatment

1. The nature of the disease is thoroughly explained to the patient, with reassurance that extensive gangrene will not occur. In the education of the patient, all facets are brought out regarding known factors which precipitate the vasoconstrictive episodes, such as cold, emotional upset, infection and trauma. During winter weather, warm clothing is advised, including heavy stockings and gloves and protection of the head. Additional protection may be necessary even during summer weather, particularly in drafts or low evening temperatures. Occasionally a change of climate is advised.

2. Psychiatric evaluation is routinely arranged, especially when significant manifestations of psychoneurosis are present, in an attempt to reduce or prevent the incidence of emotional stress.

3. Use of tobacco should be discontinued. Demonstration of the stimulation of palm perspiration by smoking is convincing.

4. Prophylaxis of feet and hands is emphasized, and ill-advised attempts at surgery on digits are discouraged, since minor trauma may precipitate vasospasm and ischemia. Patients are warned of the hyperesthesia following trauma or infection on hands or feet and are told that this pain can be treated by some method of sympathetic denervation as used in the conservative treatment of causalgia-like manifestations.

5. Underlying diseases are constantly searched for and considered concurrently with treatment of the Raynaud's phenomenon, with the hope of relief through removal or alleviation of the initiating cause.

6. Each of four vasodilator drugs is tried for one week, with investigation of individual response. Priscoline is given in dosages of 50 mg. 3 to 5 times daily; Hydergine 0.5 to 1 mg. sublingually 4 to 6 times a day; Ilidar 25 to 100 mg. 3 times a day; or Arlidin 6 to 12 mg. 3 times a day. The patient frequently will adjust the drug in relationship to environmental factors.

Surgical Treatment. When the dermal changes are disabling and medical therapy fails, surgical measures are considered. Thoracic sympathectomy, excising T-4, T-3, T-2, and the inferior half of T-1, is not encouraged but is sometimes required; benefit is frequently short of the optimum, but most patients do obtain some relief. Lower-extremity sympathectomy, with excision of L-1, L-2 and L-3, gives uniformly good results.

Related conditions, such as acrocyanosis and livedo reticularis, seldom require treatment. Acrocyanosis shows color changes ony, without pain, and requires no specific treatment since no complications occur. Livedo reticularis shows purplish discoloration of the skin of the arms, legs or trunk; superficial ulcerations are treated symptomatically, and sympathectomy is justifiable only if superficial gangrene is present and the lesion fails to heal. The benign character of these diseases is explained to the patient, and he is advised about protecting himself from cold environment.

ARTERIAL INJURY

Every practicing physician should realize that a major arterial injury can be repaired in almost all cases by competent vascular surgery. No longer should major arteries be purposely ligated or blindly clamped without immediate repair. Failure to recognize the criteria indicating that conservative therapy should be discontinued may result in crippling symptomatology, loss of limb, or even loss of life. For any patient with arterial insufficiency (with or without laceration) localized to an extremity, we advise:

(1) If the patient, when out of shock, presents a persistent diminution of or absence of a major peripheral extremity pulse, brachial block or spinal anesthesia should be tried first; if pulsation fails to return in a few minutes, exploration is undertaken. No definite time limit should be set after which exploration will not be done.

(2) If no pulsation returns following chemical sympathetic denervation, reoperation is required unless contraindicated.

(3) Fasciotomy in all fascial compartments may be necessary in an occasional patient.

(4) Anticoagulants are not required, but heavy antibiotics and tetanus prophylaxis are routine.

Procrastination results in a slow but definite decline in the possibility of good results. Injuries are so frequently multiple, involving also muscle, nerve, bone, and tendon, that an overall surgical approach must be planned. Competent

surgery will seldom result in harm to the patient, but the "hands off" policy is fraught with danger. Success is most gratifying, and planned action is far more logical than wishful thinking.

ANEURYSMS

Arterial aneurysms are most frequently of traumatic or arteriosclerotic origin. The danger of loss of limb or life in these patients is frequently underestimated. Aneurysms present a three-fold hazard: Rupture, thrombosis, or peripheral emboli. The more peripheral the aneurysm, the less hazardous is surgical treatment. But the prognosis is always sufficiently poor to demand prompt surgical innervation by excision and grafting. However, we must differentiate those who might die of their aneurysms and need treatment, and avoid those who will die from other causes. Palliative treatment is seldom utilized; only the cure to procedure (excision of the aneurysm with or without graft replacement) is used.

Ascending Aorta:

Most are of syphilitic etiology, often associated with aortic insufficiency. Heart failure is a greater hazard than aortic rupture.

Arch of Aorta:

Usually of syphilitic etiology, seldom associated with aortic insufficiency. Surgical approach has been rare with our present knowledge and experience.

Descending Aorta:

May be syphilitic, arteriosclerotic, or traumatic in origin. Surgery is indicated, but limited by the extent of the aneurysm, and the age and condition of the patient. Dissecting aneurysms in this area are treated surgically by palliative means.

Abdominal Aorta:

Most are below the renal arteries. All symptomatic aneurysms in this area are treated to save life, since pain indicates expansion or rupture. Risk of operation must be considered in asymptomatic aneurysms.

Peripheral Arteries:

All symptomatic aneurysms and those with open distal arterial bed are treated surgically. The patient with multiple aneurysms (except popliteal) is usually too old to require treatment.

Arteriovenous Fistula:

Treatment is surgical: Correction of the defect, with or without grafting.

FROSTBITE

Early treatment of frostbite is directed toward prophylaxis, relief of pain and excision of necrotic tissue. For protection against infection, the extremity is either covered following antiseptic preparation or placed on sterile bed sheets. Penicillin 300,000 units is administered intramuscularly daily. Pain is relieved by intra-arterial Priscoline 10 mg., repeated as necessary, or Hydergine 0.3 mg. intra-arterially; oral Priscoline 50 mg. may be used 3 to 4 times daily. Sympathetic nerve block with 1 per cent procaine will lessen recurring pain and relieve the vasospasm; this distress should be recognized as sympathetic overactivity, the frostbite initiating the causalgia. Heparin and coumarin drugs are used initially, on a prophylactic basis, until the acute episode is past and the patient is moving his extremities well. The extremity is warmed to body temperature. After demarcation, the wounds are debrided; only if gangrene is deep after debridement should amputation be done, with possible grafting.

Late treatment is sympathectomy, if indicated by cold sensitivity, vasospastic phenomena, repeated ulcerations or further tissue loss. Debridement and grafting may be necessary.

CONCLUSION

Venous and lymphatic diseases have not been included here because of limitation of time and space. Despite rapid advances in recent years in the diagnosis and treatment of peripheral vascular disease, errors of both commission and omission continue to plague the clinician. No longer are we justifiable in serene acceptance of the inevitable process of necrosis or viability without function; an attempt must be made early to save the part, symptoms must be alleviated, and the body as a whole must be protected from advancement of the disease.

Editorial Section

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Journal of

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The Editor sincerely solicits contributions of scientific articles for publication in ARIZONA MEDICINE. All such contributions are greatly appreciated. All will be given equal consideration.

Certain general rules must be followed, however, and the Editor therefore respectfully submits the following suggestions to authors and contributors:

1. Follow the general rules of good English, especially with regard to construction, diction, spelling, and punctuation.
2. Be guided by the general rules of medical writing as followed by the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.
3. Be brief, even while being thorough and complete. Avoid unnecessary words. Try to limit the article to 1500 words.
4. Read and re-read the manuscript several times to correct it, especially for spelling and punctuation.
5. Manuscripts should be typewritten, double spaced, and the original and a carbon copy submitted.
6. Articles for publication should have been read before a controversial body, e.g., a hospital staff meeting, or a county medical society meeting.
7. Exclusive Publication—Articles are accepted for publication on condition that they are contributed solely to this Journal. Ordinarily contributors will be notifed within 60 days if a manuscript is accepted for publication. Every effort will be made to return unused manuscripts.
8. Illustrations — Ordinarily publication of 2 or 3 illustrations accompanying an article will be paid for by Arizona Medicine. Any number beyond this will have to be paid for by the author.
9. Reprints — Reprints must be paid for by the author at established standard rates.

The Editor is always ready, willing, and happy to help in any way possible.

(The Opinions expressed in original contributions do not necessarily express the opinion of the Editorial Board.)

THE PHARMACEUTICAL MANUFACTURERS ASSOCIATION

THE PHARMACEUTICAL Manufacturers Association is to be congratulated for its clear concepts as they relate to federal subsidy. Their basic American philosophy was well exemplified when they adopted the following principles:

"1. Since our further progress in medicine directly depends upon the supply of highly-qualified scientists, the training of additional teachers and research personnel should have highest priority.

"2. Government funds should be principally allocated to basic research objectives, to expand our fundamental knowledge in all medical fields, rather than to applied research and development.

"3. Except in unusual circumstances, government funds should therefore be allocated to non-profit institutions, rather than to private industry. Private industry should be subsidized only in cases where no non-profit organization can do the job. In such exceptional cases, however, full co-operation can be expected from a pharmaceutical firm approached by the federal government because of its unique qualifications."

It is indeed heartening, in these times of the "grab for free federal monies," to have those among us who, in spite of spending $190 million of their own money for research in 1959, still desire to preserve our high standards of scientific attainments which have been achieved without handouts.

L.B.S.

CORRECTION

Volume 16 No. 4, April, 1959 issue of Arizona Medicine on page 218 the article entitled "Third-Party Medicine," in the third paragraph thereof and the second line of that paragraph the word "Medicare" should have been the two capitalized words "Medical Care."

ANNOUNCING

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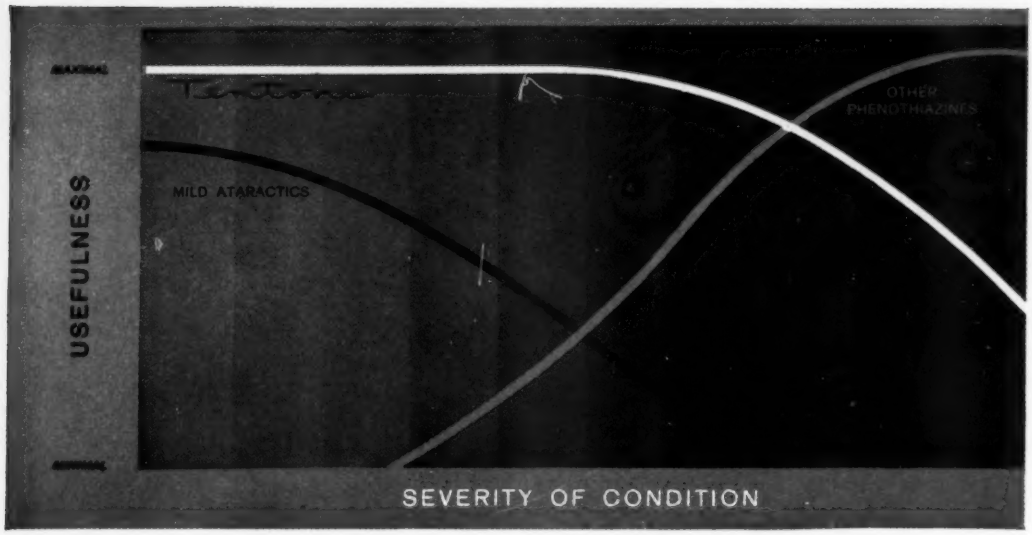

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Incidence of untoward reactions is exceptionally low and approximates the mild ataractic drugs. Reduction in sensitivity reaction, intestinal distress, blood, brain or liver toxicity is striking, particularly in the low dosage range. TENTONE exhibits greater freedom from depression and drug habituation. Physical and psychic orientation is usually preserved. Occasional drowsiness may be encountered, particularly in higher dosages. In moderate to more severe cases, this sedative effect may be desired.

TENTONE has thus been described as one of the easiest tranquilizers to handle in office practice. In indicated cases, the physician may be relieved of the patient's unnecessary concern over his own illness. In contrast to the previous types of drugs, complaints over induced distress or inadequate benefit are rare.

WHEN MORE THAN MILD SEDATIVE EFFECT IS DESIRED

Consequently, TENTONE is more useful than other ataractic drugs in two areas: (1) mild to moderate conditions—when more than mild sedative effect is sought, (2) middle range of moderate to severe cases—when less than psychopathology is involved.

Indications include ■ common anxiety-tension states ■ obsessive-compulsive behavior ■ neurosis ■ depression ■ situational anxiety and hysteria

And the emotional components of: ■ agitation ■ restlessness ■ tremors ■ insomnia ■ alcohol- and drug-withdrawal syndrome ■ hyperkinesis ■ prenatal anxiety ■ rheumatic disorders ■ dermatoses ■ menopausal syndrome ■ premenstrual tension ■ peptic ulcer, other g.i. disorders ■ asthma, other allergy ■ multiple sclerosis, arteriosclerosis ■ malignancy, other progressive diseases

POSSIBLE POTENTIATION OF ANALGESICS AND NARCOTICS

Since tranquilizing drugs may potentiate the action of pain-relievers, sedatives, and barbiturates, they should be used with caution in conjunction with them, or to achieve a greater response to these drugs in various conditions when desired. They may also be useful in reduction of effective dosage to better tolerated, or non-habituating levels.

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MEDICAL EDUCATION'S CHRISTMAS TREASURE

IN THE fall of 1958, council of the Arizona Medical Association approved a recommendation for adoption of a plan to rechannel monies often used for the purchase of Christmas gifts to physicians and their families into the fund for medical education through AMEF. The substance of the plan was to suggest to the pharmacists, medical and surgical supply houses, ambulance companies, and morticians of Arizona that in lieu of giving Christmas gifts to doctors, if such was their policy, they make contributions to medical education through AMEF.

The office of the Arizona Medical Association circularized the organizations and individuals concerned and the response was most gratifying, even though the decision was reached very late in the year after many had placed their orders for the usual Christmas gifts. The action of the Arizona Pharmaceutical Association is well discussed in *Arizona Pharmacist,* Vol. 37, No. 11, November 1958. Pharmacists and others who are familiar with the idea are almost unanimously enthusiastic supporters.

The board of directors of the American Medical Education Foundation at its December meeting unanimously endorsed this action. At the annual meeting of state chairmen of AMEF at the Palmer House, Chicago, Ill., Jan. 24, 1959, the plan was discussed as a major item on the agenda. Representatives of many of the states are already setting up plans for adoption of this idea in their states. It is expected that it will become a nation-wide policy.

The deficit in unearmarked funds which may be used by the medical schools of our country for necessary expenditures continues to be a most urgent problem. AMEF during the past year has relieved this need in part by the distribution of over $1 million which was contributed to medical education through the generosity and efforts of the doctors of medicine of the United States, the women's auxiliary to the AMA, and friends of medical education from every walk of life including our pharmacists, morticians, etc. Although the wheels of this plan were set in motion very late in 1958 in Arizona, yet the contributions to medical education resulting therefrom by pharmacists and morticians totalled in excess of over $1,640. It is expected that in the year 1959 a large sum of money will become available to medical education not only from Arizona, but also from the other states as the result of this plan. The Arizona Medical Association has the distinction of initiating this movement.

We, the doctors of Arizona, thank our allied professions for their enthusiastic interest in and contributions to the support of *free* medical education in these United States. It is only with this type of support and the support of every doctor of medicine in our country that *free* medical education can be maintained on its highest plane and that government control by subsidies to our medical schools can be avoided. Each of us should take a new look at our budget to see if our contribution to free medical education actually reflects our interest in its continuation.

H.K.

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WHO'S ON FIRST?

THE RECENT controversy and various news accounts in the Arizona newspapers concerning the contest for high school students sponsored in Arizona this year by the Women's Auxiliary to the Arizona Medical Association is reminiscent of the famous comedy act of Abbott and Costello concerning "Who's on First?"

The members of the Arizona Medical Association are entitled to a factual report to clear the air of the smog of claim and counterclaim and general confusion existing as of this writing.

The American Association of Physicians and Surgeons, Inc., of which some 66 Arizona physicians are active members, has for the past 12 years sponsored an annual essay contest for high school students on a national scope. Originally, (1946) the topic of the contest was, "Why the Private Practice of Medicine Furnishes this Country with the Finest Medical Care." AAPS felt that this was a real "Americanism" topic. Private practice of medicine under the free-enterprise system has given the American people a type of medical care far superior to that enjoyed by any other people on earth. On the other hand, socialized medicine, or government-controlled medical care, is and always has been a wretched failure. (Witness the deplorable situation in Britain and Germany.)

The Association of Physicians and Surgeons assumed that all organizations interested in public education in the United States would be glad to see its contest available to American high school students; this assumption is based on the fact that the private practice of medicine is an essential and integral part of the great American story of freedom and prosperity. Consequently, AAPS asked the North Central High School Association, an agency of the National Educational Association, to approve its contest. For the next two years in a row this agency refused approval on the grounds that the AAPS contest subject matter was too "controversial" and that "students were not permitted to write on the other side."

In 1954, AAPS added another topic to its high school essay contest: "The Advantages of the American Free-Enterprise System." At this same time it changed the title of its original topic to, "The Advantages of Private Medical Care." Students now were given a choice of topics and those who wanted to compete for one of the association's prizes would not be required to write on such a "controversial" subject as "Why the Private Practice of Medicine Furnishes this Country with the Finest Medical Care." Surely, these new topics could not be controversial. Surely, no one — except Socialists and Communists — would regard "The Advantages of the American Free-Enterprise System" as an undesirable topic.

On June 8, 1956, the national chairman of the AAPS contest committee went to Washington, D. C., where he appeared before representatives of the National Association of Secondary School Principals, another sub-agency of NEA, and asked for approval of the 1957 contest. On June 12, 1956 the secretary of the National Association of Secondary School Principals wrote to the chairman of the AAPS contest: "After careful review of your application, the committee voted unanimously to withhold approval. If it weren't for the fact that principals have expressed firm opposition to essay contests, a different decision might have been reached."

This "opposition to essay contests" sounded rather strange to the officials of AAPS since they were aware of at least one other contest of national scope that the National Education Association does give its blessing. The American Association for the United Nations sponsors a contest for high school students in which the competing students must participate in a "written examination" which "must be held at local high schools" on a designated date. This contest of necessity must interfere with the regular school activities as well as probably involve the teachers' time. AAPS, in contrast, merely asks that packaged informational material, part of which is supplied by the American Medical Association, be placed in school libraries for students' use if they wish to enter the contest, and that they be informed of the existence of such a contest and the materials available for reference. This material is supplied free of any charge, and over 20,000 such packaged libraries were sent out during the 1958 contest just ended.

In order to verify what they already knew, AAPS inquired of the American Association for the United Nations asking whether its contest was approved by the National Association of Secondary School Principals. The secretary of the AAUN replied: "As in the past, the contest

has been approved by the National Association of Secondary School Principals for the coming year." Q.E.D.!

Thus, we have an agency of the National Education Association refusing to endorse a high school contest which would encourage students to think and write about the advantages of our American free-enterprise system, saying that such a topic is "controversial." We have an agency of the National Education Association refusing to endorse the AAPS contest designed to encourage students' appreciation of America's system of private practice of medicine because "students are not permitted to write on the other side." Yet it does endorse contests designed to encourage students to think and write favorably about the United Nations — a very controversial subject in the minds of many people — and does endorse AAUN contests, an organization formally organized to propagandize for the U.N. NEA, incidentally, was the instrumental arm of organization for UNESCO, the educational propagandizing agency of the U.N. NEA boasts in a published leaflet that it "circles the globe" and "leads in teaching about the United Nations and UNESCO." UNESCO has been condemned by the American Legion, and others, as "an agency infiltrated by plotters who wish to destroy our way of life, capture our wealth, and enslave our people — and are using the UNESCO to corrupt the minds of our children by destroying their love of country." "We deplore the use of material furnished by the United Nations' educational, scientific, and cultural organizations for use in our public schools."

For a number of years efforts have been made in Arizona to enable the high school students of Arizona to participate in the AAPS contest, this effort being made in behalf of AAPS by its contest chairman in Arizona each succeeding year. Any effort to deal locally with local school officials has met with failure because "any national contest must have approval of the Arizona Interscholastic Association." On Jan. 23, 1957, the local committee in Pima County, through the public relations chairman of the Pima County Medical Society, wrote to this organization asking for approval of the contest in this area. The executive secretary for AIA replied: "The only national contests which are approved for Arizona are those which have already received the approval of the National Association of Secondary School Principals — the essay contest for which you seek approval is not on this list and, therefore, member schools of the Arizona Interscholastic Association cannot participate in it."

Stymied again in their efforts for approval, the commitee in Arizona for the AAPS contest decided on a different mode of attack for the 1958 contest year. AAPS regards state and local contests as autonomous and they merely furnish advice and material to state and local contests, run the national level judging, and furnish national level prizes. Therefore, for the year 1958, *no* request for approval from AIA or the National Association of Secondary School Principals was sought, knowing full well that such request would be turned down anyway. Sponsorship by the Women's Auxiliary to the Arizona Medical Association was sought and obtained. All contest chairmen for the auxiliary were briefed on the background of past refusal and urged to contact all parochial and private schools as well as those public schools not under the dominating thumb of the North Central Association. They were also urged to contact other public school pupils and invite them to enter the contest on an individual basis. Letters were written in many instances to the public school principals inviting participation in the contest, but in all instances refusal was voiced on the basis of non-approval by AIA. Despite not being able to place informational material in the public school libraries, and despite no adequate "publicity" making known the existence of the contest in the public school system, *for the first time* a number of contest entries were written and submitted to the auxiliary contest committee.

The Women's Auxiliary is to be complimented on its effort to bring the contest to Arizona for the year 1958. A few dedicated individuals after the conclusion of the contest decided to publicize the refusal of local school officials to sanction the AAPS essay contest in the public schools of Arizona. We grant the right of the educationists to have their national organizations just as other professional people have that right. We do argue that local school authorities for each school have the right of local decision, if they care to exercise it, because they are first responsible to the local taxpayers who support the schools. Decision making by the national educational groups very often gives the local

school head an "out" on either accepting or rejecting contests and other extra activities.

The state board of education has asked the Arizona Interscholastic Association for a full report on its essay contest regulations and a move has been made to have the AIA constitution changed at the time of its next meeting in May 1959. Both are salutary and it will be interesting to observe what happens when approval for the 1959 contest is sought.

Regardless of the unfairness and sordidness of the entire situation, there is a bright note. Through the untiring and unselfish efforts of thousands of physicians and their wives in almost every state in the Union, the 1958 AAPS contest has been participated in by more high school students than ever before and without the approval of the National Association of Secondary School Principals.

States sponsoring the 1958-59 contest are: Ohio, Minnesota, South Carolina, Alabama, Mississippi, Louisiana, Kentucky, Iowa, Oklahoma, North Dakota, Texas, Nebraska, Colorado, New York, Oregon, Wyoming, Montana and Hawaii. *In addition,* there are 250 county medical societies and auxiliaries sponsoring the contest in states not promoting at the state level.

A record-breaking number of high school students have been given the opportunity to understand and appreciate the wonders and glories of our American free-enterprise system and one of the successes achieved under this system, the advantages of private medical care.

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HOW THE COMMUNIST PARTY TREATS BURNS

THE ARTICLES to follow are taken from the November 1958 issue of the Chinese Medical Journal. The first is an editorial and the second a sermon on how the Communist Party of China conducts the treatment of burns. The tone of these articles leaves one with a feeling that the level of medical practice and co-operation in China must be appallingly backward when politicians have to spur doctors to concerted efforts. One grasps the insincerity of the situation in the sarcastic attitude toward Western medicine. The hearts of doctors and the pain they try to relieve are international, recognizing no boundaries. It is when the dogmas take control that "blind worship of established authority" corrupts what is good about our profession. If, as this article purports, the development of medical co-operation is a miracle in China, such miracles are good. But why the sarcasm about Western medicine? Sarcasm has no place in the field of healing human suffering.

A careful reading of this article reminds one of the White Queen in "Alice Through the Looking Glass" – "Why, sometimes I've believed as many as six impossible things before breakfast." For example, phrases such as "When politics take the lead over scientific theory, when specialitsts cease in their *blind worship of estabiished authority,* etc." And a little further along, when steel-worker Ch'iu Ts'ai-K'ang's wife brings him his paycheck in a hospital, he reveals his *worship of authority* by saying to her, "Have you paid my party dues?"

These Chinese people have been civilized for 4,000 years. One knows them to be more sophisticated than this shibboleth-laden article would make them out to be.

Once again, we respect those portions of the Chinese Medical Journal that stick to medicine. We abhor those medical aspects of it that reveal blind worship to a dogma. We hope that next time Ch'iu Ts'ai-K'ang's wife visits him in a hospital, his first questions will be "How are you, and are the children well?"

A.J.B.

PROGRESS IN THE TREATMENT OF BURNS

from the
CHINESE MEDICAL JOURNAL
November 1958

IN MAY this year, under the forceful leadership of the party committee, medical history was made in Kwangts'e Hospital of the Shanghai Second Medical College. It was the saving of the life of Ch'iu Ts'ai-K'ang, a steel worker, whose extent of burn was 89.3 per cent of the body surface, with 20 per cent third degree burn. Expert opinion held out little or no hope for the patient, because according to the medical literature, burns extending over 70 per cent of the body surface were fatal. But, in our Socialist society, when politics take the lead over scientific theory, when specialists cease in their blind worship of established authority, then miracles can happen.

The successful fight for the life of Ch'iu Ts'ai-K'ang is described in the suming-up report of the Community Party committee of the Shanghai Second Medical College, published in this issue with photographs.

After Ch'iu Ts'ai–K'ang's case, Kwangts'e Hospital had more than 10 other similar cases, including a child with burns of 70 per cent of the body surface and a man with 94 per cent. Not only was there no mortality, but the cases were more successfully managed. These cases show that in the treatment of serious burns, we have far surpassed the international level and that the so-called "authorities" in capitalist countries are left a long way behind us.

Also, from July this year there have been, throughout the country, numerous cases of serious illness in which the patients have been literally snatched from death by the concerted effort of the hospital staff and the use of every possible means to save their lives, as exemplified in the records of the Fourth, Eighth and Ninth hospitals, Chung Shan Hospital, T'ungchi Hospital, China Welfare Institute International Peace Maternity and Child Health Hospital in Shanghai, and other hospitals in Nanking, Chingchow, Tungchow and Peking, including a number of army hospitals. All these show the Communist spirit of thinking, speaking and acting with courage and daring that liberates the initiative and energy of the people. On the foundation of these achievements we shall further promote this spirit, so that, one and all, medical workers in China may be fully imbued with it and become, in this era of leap forward, a fighter to protect the health of the people and at the same time to catch up with and surpass the world level in medical science and technology.

With this in view, the ministry of public health has recently instructed the public health administrative bureaus in all the cities and provinces to emulate Kwangts'e Hospital in Shanghai in their successful fight to save Ch'iu Ts'ai-K'ang, pointing out that this was a result of the party's political leadership and destruction of shibboleth. It was also pointed out that the motion carried at the All-China Conference for the Exchange of Experiences in Technical Revolution in Medicine, Pharmacology and Public Health to learn from and emulate the Shanghai Second Medical College was a timely and effective measure to overthrow bourgeois ideology and establish the proletarian spirit in medicine, thus further raising the political level of medical and health workers and advancing medical science to newer heights.

THE FIGHT TO SAVE STEEL WORKER CH'IU TS'AI-KANG'S LIFE

A Summing-up Report by the Shanghai Second Medical College Committee of the Chinese Communist Party

The process leading to the saving of the life of Ch'iu Ts'ai-K'ang, steel worker of the Shanghai Third Steel Mill, who was burnt by molten steel, was a process of grave and intense struggle between the proletarian and bourgeois medical conceptions and between proletarian and bourgeois therapeutic methods. The outcome of this struggle has proved, once again, that a proletarian party, and only such a party, is capable of leading every kind of work, including the extremely exacting science of medicine; that today, even in the seemingly most complicated work of healing, only by departing from individual effort alone and following the mass line can more and better results be gained faster and more economically; that the social picture in our country today has undergone profound

changes and the lofty style of communism of "one for all and all for one" and the spirit of co-operation are fast developing; and that the potentialities in medical and health work are infinite, and should and can produce greater leaps forward.

THE INTENSE STRUGGLE UNFOLDS

Could the Final Findings and Figures in the Literature by Authorities in Capitalist Countries be Surpassed

At 2:30 in the morning of May 27, resident doctors shook their heads hopelessly when three emergency cases of steel workers burnt by molten steel were brought in. These were Ch'iu Ts'ai-K'ang, with 89.3 per cent of his body surface burnt, Liu Ssu-Hsiao with 94 per cent, and a third with 20 per cent. The reason for this grave prognosis was that Evans, the American and world authority on external wounds, had stated that the mortality was 85 per cent when the burn exceeded 50 per cent of the body area, and 100 per cent when it exceeded 70 per cent, as exemplified by his own 11 cases. It was held, therefore, that survival was impossible with burns beyond 80 per cent in area.

Although a consultation of all resident doctors and many doctors from other hospitals was at once summoned, a feeling of hopelessness prevailed. The doctors at the consultation unanimously predicted an unfavorable prognosis. At this crucial moment, a message was received from the party committee of the Shanghai Third Steel Mill praising the work already done and pleading, for the sake of steel production and in order not to disappoint the workers of the whole mill, to save the wounded workers at all cost. The party committee of the Shanghai Second Medical College analyzed the ideologic state of the doctors, and correctly pointed out that what could not be done in capitalist countries, we could do, and what the capitalist literature did not record, we would record. This is possible because our social system and theirs differ. The people burnt there are the exploited workers. The capitalist whose only concern is for profits and more profits will most certainly not expend money and energy to save a worker. No more would the intelligentsia who serve the capitalists. Ours is a country where the working class is the master. Ours is a hospital the sole aim of which is to wholeheartedly serve the working people. For the sake of our steel production, we must try every possible means to save these steel workers.

The letter from the steel mill and the party secretary's words startled the doctors into a new frame of mind and pointed out to them the course they had to take. They also gave them confidence in success. Things then started moving. Forty-odd doctors covered in one morning all the available literature accumulated over scores of years on burns and decided on 15 alternative methods of treatment. The doctors quickly passed over from a state of stupor into a state of activity, devising ways and means of saving the patients. They said that the general line for Socialist construction through the Third Steel Mill's party committee's message and the analysis of the college party committee, had roused them and made them feel that in times like these when industry and agriculture were all taking tremendous leaps forward, doctors also should and could work miracles.

AS LONG AS THE WILL TO WORK MIRACLES EXISTS, MIRACLES WILL HAPPEN

The Main Problem is Grasped

After the patient's period of shock was over, the doctors discovered B. pyocyaneus in his blood stream. This is a very active and potent type of bacillus which, if not controlled in time, could easily cause septicemia and certain death. The only existing drug for treating B. pyocyaneus infection is polymyxin. But, according to the literature of capitalist countries, animal experiments showed that polymyxin could only be administered in small doses, and generally for seven days only; exceeding this dosage might affect the kidney. The party committee again grasped this problem and laid it out for the doctors to study: The main problem confronting them, the major contradiction, was the threat of B. pyocyaneus to the patient's life. B. pyocyaneus infection must be controlled. As for the kidney, protective treatment should be given. The experiments recorded in the literature of capitalist countries were animal experiments. True, man is also an animal, but surely of a different caliber. Therefore their experiments did not necessarily always hold true. The results of treatment showed that although the dosage and period both exceeded the conventional ones, B. pyocyaneus infection was finally controlled without damage to the kidney.

After the septicemia was controlled, B. pyocyaneus infections were discovered again on the

lower extremities. At this stage most doctors thought that amputation was unavoidable, and they were not confident that even with amputation comrade Ch'iu Ts'ai-K'ang's life could be saved. At this juncture, the party committee again called on everyone to seek for means of treatment. The members of the department of microbiology suggested bacteriophage treatment which had been recorded in the world literature but had not as yet been tested clinically. To obtain these specimens of phage, more than 60 students from the college combed the rural areas every day for days, bringing back samples of feces and sewage water for isolation and culture, until the necessary bacteriophage was obtained. Bacteriophage cured the wounds of B. pyocyaneus infection and saved the patient from another crisis.

The successful clinical application of bacteriophage is another landmark in world medicine.

The successive use of polymyxin and bacteriophage finally controlled B. pyocyaneus infection.

This proved that in whatever work, medicine included, the objective condition must always be analyzed, and major and minor problems differentiated so that the major contradiction can be grasped and no efforts spared to solve it. Unfortunately, our medical workers often employ the patchwork method of organizing treatment, limiting themselves to seeing only the part and not the whole, seeing only the malady and not the patient.

Changes are Carefully Observed and Creative Diagnostic and Therapeutic Measures Taken

In a burnt patient, skin grafting is another exacting and painstaking procedure after the period of shock and infection is over. In the case of comrade Ch'iu Ts'ai-K'ang, the burnt area was so exceedingly great and the degree so severe that it was necessary to first excise the burn tissue, do dermatoheterografts, and then finally dermatoautografts.

As to when to excise the burn tissue, the customary period is two weeks after injury. But such a long interval often causes the wound to worsen. This has long been a difficult problem in treating burns.

Ch'en Teh-Chang, a young doctor, in his round-the-clock vigil at the patient's bedside, discovered that burn tissue separated from the subcutaneous tissue before nine days. But being fettered to established medical experience, he only casually mentioned this matter to some party members, and did not dare to suggest excising and grafting before two weeks. Finally, only upon the party committee's firm insistence did the doctors observe reality and advance the date of grafting.

In actually practicing early grafting and devising improvements, it was discovered that even nine days was not necessary; as a matter of fact, grafting could be done as soon as the patient's wounds were sterilized on admission. Thus not only were the chances of infection greatly diminished and the recovery of tissue enhanced, but the process of grafting and growing skin was also greatly shortened.

We demanded of everyone attending the patient that he should observe the minutest details, exchange views on any change in his condition, make early diagnosis, and decide on the course of treatment at every stage. New mesthods of treatment were first tried out on a small area. The method of rapid preparation of the wound surface receiving the graft and that of exposed grafting were first tried out on a small area, and when we found that the effect was quite satisfactory, we extended the use of these methods.

The Socialist Principle of Collectivism

Burns have always been considered a simple surgery problem, and only when they show general symptoms is it considered necessary to call into cousultation the department of medicine. This practice of only considering the appearances and not the patient as a whole and of giving more local treatment and less over-all treatment used to be quite common in surgery.*

In the process of treating Ch'iu Ts'ai-K'ang, our doctors gradually broke away form narrow-minded departmentalism and rid themselves of the false notions that the more a department calls in others for consultation the less capable it is, and that consultations are only a means of shirking responsibility. As a result, over-all treatment came into full play.

Consultations were held daily with the departments of dermatology, surgery, medicine and urology, and the disease was considered from every aspect before the day's treatment was decided upon. Consequently, a well-known professor of internal medicine declared that the general change induced by deep burns involved all

*In 1955, a cook in Kuangts's Hospital was very badly scalded and the body area burnt was about the same as in Ch'iu Ts'ai-Kang's case, although the burns were first and second degree. He died on the fourth day, one of the causes of death being inadequate over-all treatment.

the theory of internal medicine, and a professor of dermatology likewise stated that burns involved the whole process of destruction, growth and development of the skin. Not only the departments directly involved were concerned about our progress, but other departments likewise showed great concern. There was only one vein on Ch'iu Ts'ai-K'ang's calf by which plasma transfusion and additional nutrition could be given. But prolonged use increased the possibility of thrombosis, and repeated injections also increased the possibility of damaging the vein. Then a pediatrician reminded us that there was a vein on the forehead frequently used in pediatrics for transfusion, thus giving us an additional route for fluid administration.

We paid close attention to the patient's diet, devising means of stimulating his appetite, studying his likes and dislikes, and having the dietician discuss his menu with him everyday. His ability to take nutritious and tasty foods enabled us to cut down greatly on additional parenteral food administration.

All these could not but lead our doctors to one conclusion. The closer the co-operation, the greater the talent, the more the ideas and the higher the courage. The day of working in isolation in medicine has passed never to return.

WHY WE WON

A Victory of Party Leadership, Irrefutable Proof that the Unskilled Can Lead the Skilled. Another Fruit Born of the General Line.

When we speak of the party's leadership, we do not mean simply technical leadership, but political guidance of technology, not just partial aspects, but the consideration of partial aspects in their relation to the problem as a whole. What we mean by political or over-all guidance is persistency in following the mass line. We called for members of the Communist Party and the Communist Youth League to take the lead in everything and set an example in doing everything possible for the patient. We did not relax our attention to political and ideological education either among the staff or with Comrade Ch'iu Ts'ai-K'ang himself; advanced ideas and actions were duly praised and backward ideas and wrong actions criticized (the nursing staff held a general meeting to criticize a nurse who refused to attend Ch'iu Ts'ai-K'ang for fear that B. pyocyaneus infection would be transmitted through her to her son).

When we speak here of the party's leadership, we do not mean pretending to know what we do not know concerning technical details, but the decisive handling of crucial problems. When it became apparent that the doctors could not break away from the established beliefs of bourgeois authorities, the party demanded that they dare to think and speak, appealed to their self respect, and encouraged their every success and achievement. Again, whenever they bogged down over a single detail, the party showed them the fallacy of seeing only one finger and missing the whole hand.

The party's leadership that we know is the close alliance of the leadership and the masses, of politics and technology, of proletarian ideology and skill. We won because of the city party committee's direct leadership and the ideology taught by the central committee's policies of the general line.

Triumph of the Noble Virtues Possessed Only by the Working Class

The sphere of general knowledge among senior medical workers, especially among senior doctors, is often limited. They are obsessed by their own work; they do not understand, and hold in contempt, and even deny the existence of others' labors and achievements. They very often know nothing of the lives of the workers, the peasants and the broad masses, and care even less. If occasionally some of them read books describing the lives of the people, they hesitate to believe that such things as described in "Kao Yú Pao"* and "The Young Guards"** could be true. But the living reality of the working class's noble virtues displayed by Ch'iu Ts'ai-K'ang moved them, and deeply.

When his dressings were changed, Ch'iu Ts'ai-K'ang suffered intense pain, but to the doctors he said, "Just so long as my eyes can see the steel, I don't mind the pain . . . " "Cure me. I'm needed in production. I can leave my wife and child, but not my furnaces".

To his wife he said, "You have brought my pay, did you pay my Party dues?"

These selfless words from a noble soul brought

*Kao Yu-Pao, a peasant's son who could not read and write before liberation, is now a student at the People's University in Peking. Opportunity of education came to him when he joined the Chinese People's Liberation Army, and after only two years of classes, he started to write his life-history. His name became famous all over China after three chapters of his autobiographical novel were published in a leading literary magazine in 1951.

**The Young Guards is a Soviet novel by Alexander Fadeyev depicting the fight of a group of Soviet youths in the German rear during World War II.

tears to the staff members' eyes.

Not only were these noble selfless traits displayed by comrade Ch'iu Ts'ai-K'ang, but also by other burnt patients transferred here in succession from far off places. Some were army men, some were members of agricultural co-ops. Their heroism in the face of pain and willingness to co-operate galvanized the hospital staff into action and made them feel that for the sake of the patients, their families, and the cause they worked for, everything possible must be done to cure them.

As soon as news of Ch'iu Ts'ai-K'ang's fight for life appeared in the newspapers, the 300,000 steel and machine tool workers of Shanghai pledged themselves to a new target in their production leap forward as a token of welcome to Ch'iu Ts'ai-K'ang upon his return after complete recovery. Workers from other factories also sent delegates to visit him. The workers' solicitude for each other was truly moving. Sun Ts'ai-Yi, an old worker at the Shanghai Medical Appliances Factory, crossed the greater part of Shanghai on foot at night just to contribute a few of his suggestions to the making of Ch'iu Ts'ai-K'ang's revolving bed.

These facts clearly show that the noble virtues of the working class are a great and very real force. It spurred on the doctors' thinking, and made them feel more acutely the need of remolding their ideology in order to accomplish the tasks given them.

Victory of the Lofty Style of Communism, "One for All and All for One," and the Mass Line

Ordinarily, when a patient is hospitalized, he comes into contact only with a few doctors, nurses and attendants. But in the fight to save Ch'iu Ts'ai-K'ang, all of Shanghai participated, and his progress was followed closely by the whole country. The city party committee and the city people's committee incessantly inquired about his condition and gave us timely advice and support. Aside from the party's concern, the people of Shanghai were also most solicitous. Young pioneers brought the biggest and choicest apples. Cultural workers gave visiting performances. Even cadres working in the countryside came to pay visits on their furlough.

To produce on short notice a special revolving bed, inflatable mattresses, emergency drugs, nutritional drugs, etc., the workers in the Shanghai Second Plastic Works, the Shanghai Medical Appliances Factory, the Shanghai Pharmaceutical Co., civil airlines, and in Kuangts'e Hospital's workshop, dispensary, blood bank and laboratory, all gave their fullest support by sacrificing holidays and sleep.

All the other departments and faculties of the Shanghai Second Medical College also showed the closest concern for Ch'iu Ts'ai-K'ang. Members of the college staff vied with one another in donating blood and skin for grafting. The departments of basic medicine and clinical medicine worked in close co-operation. In order to be able to transfuse with antibiotic blood, a fourth year student and a nurses' school student voluntarily took B. pyocyaneus, streptococcus and staphylococcus vaccine injections, then waited anxiously for signs of fever, for fever would mean that the vaccine had induced the formation of antibodies so that their blood when transfused into Ch'iu Ts'ai-K'ang could increase his resistance to these three micro-organisms.

It can be clearly seen from the above that the lofty style of communism and the spirit of co-operation are rapidly developing in our country. It can also be seen that medical and health work must and can follow the mass line.

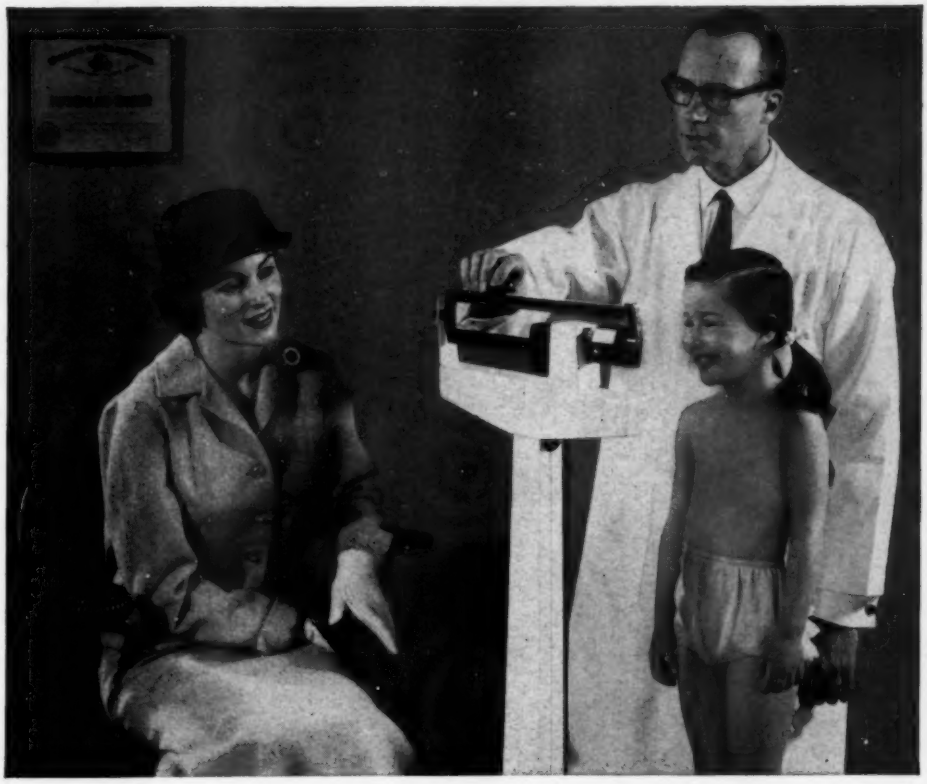
Victory of the Party in Leading and Remolding Intellectuals to Better Serve the People

Although for most medical workers, the anti-rightist struggle and the rectification campaign have solved politically the question of choosing between the two social systems, still, in their actual work, they have not completely settled the questions as to how to accept the party's leadership, how to serve wholeheartedly the working people, etc.

During the two months' fight to save Comrade Ch'iu Ts'ai-K'ang, the leading role played by the party convinced the senior doctors and they acknowledged with all their heart that: "It's true that diseases can be treated by Marxism-Leninism," and that "Without the party, intellectuals like us could not possibly have broken out from the established rules of bourgeois experts."

One professor declared, "People call me an expert on surgery, but actually I'm only expert in a very limited part of surgery. Only the party can analyze a problem as a whole and give overall leadership."

Others said, "When the party first told us to save him at all cost, I thought that this was a case of laymen demanding the impossible. But



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Nilevar is supplied as tablets of 10 mg., drops of 0.25 mg. per drop and ampuls of 25 mg. in 1 cc. of sesame oil. Further dosage information in Searle Reference Manual No. 4.

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Research in the Service of Medicine.

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*Brown, S. S.; Libo, H. W., and Nussbaum, A. H.: Norethandrolone in the Successful Management of Anorexia and "Weight Lag" in Children, Scientific Exhibit presented at the Annual Meeting of the American Academy of Pediatrics, Chicago, Oct. 20-23, 1958.

as the days went by, and I saw how the party solved problems at every crucial point, how the masses enthusiastically offered help, how Ch'iu Ts'ai-K'ang himself could not forget his steel even though his own life hung by a thread, I became convinced. I am convinced that only by relying upon the party and the people can we intelligentsia turn our knowledge into useful strength and ourselves into useful people."

The party led the doctors forward step by step. It involved repeated shattering of old beliefs, instilling of new beliefs, and raising of their political consciousness by degrees. This was putting into practice the party's policy toward intellectuals. It was truly said that in this fight to save Ch-iu Ts'ai-K'ang, on the one hand, the doctors cured Ch'iu of his burns, but, on the other hand, through this curing the doctors themselves were cured: Cured of their blind reverence for foreign authoroties, their blind faith in textbooks, their doubts in the party and in the masses, their unrealistic approach to problems. Another observation was that the day Ch'iu Ts'ai-K'ang recovered, some of the diseases the doctors suffered from would also have been cured. How true!

Proof That Medical and Health Work Should and Can Leap Forward

Forward leap in medicine has encountered many obstacles. According to some people's way of thinking, "Medicine is different from industry and agriculture; it involves the life and death of human beings. Steel can be retempered, and crops can be resown, but a human life is given but once." Behind this lurks much of the bourgeois individualistic standpoint. The claim that life is not matter to tamper with only serves as an excuse for callousness toward life. "Human life is given but once" is an excuse to hide their refusal to bear responsibility to the patient and refusal to actively serve the people. Unfortunately, this kind of thinking is still widespread among the medical profession.

"Can everybody treat diseases?" one doctor asked. "My bit of knowledge took me 20 years of hard work to accumulate." Behind this lurk unmeasurable arrogance, self-conceit and detachment from reality.

"The curing of disease cannot be hurried," another said. "How fast the course runs is beyond our control. In medical work, you just can't apply the more and faster stipulated in the general line." Such self-absement and disregard of the latent potentialities in man are actually a desire to go to sleep in an easy chair and wake up in a ready-made Communist society.

"Healing is a very complicated business," says yet another. "The changes in the human body are unpredictable. How can you plan a leap forward here?" Behind this lurks the servile idea that science has already reached its very peak, and there is nothing more to be done.

The successful treatment of Chi-iu Ts'ai-K'ang as well as the 10 or more severe burn cases has proved that the potentialities in medicine are infinite, and the possibility for leaps forward is immense. The very fact that burn surgery in such a serious case as Ch'iu Ts'ai-K'ang's was able to catch up with and exceed the current world level proves this. If it can be done in burn surgery, naturally the same holds for other departments. Therefore, the above ideas should all burst like soap bubles.

OUR FUTURE TASKS

1. The fight to save Ch-iu Ts'ai-K'ang has proved that politics can play the guiding role in medical science and has also enabled us to gain some experience in how to apply political guidance. The reasons and methods should be made known to everyone and everywhere. Recently our college established departments to study hypertension, schistosomiasis and measles vaccination. In each of these departments there is a concurrent political head. Also, Communists and members of the Communist Youth League are in charge of the different research projects so as to expedite the intellectuals' and their own proletarian remolding and the advancement of their technology.

2. A burn surgery department will be established to systematically study and sum up the political and technical experiences gained during these past two months. A training course will be opened where these experiences will be shared with other workers. This will undoubtedly contribute toward advancing burn surgery in our country. Before this, we did not do enough toward systematically summing up our experiences and making them known to others, consequently when many hospitals met with severe burn cases that they could not treat themselves, they could only transfer them to us.

3. We shall make it our duty to cure all burn patients henceforth with burns within 90 per cent, at less expense and in less time. Our political work was inadequate; on the first two

days of the fight to save Ch'iu Ts'ai-K'ang we did not give the necessary political guidance. Even afterwards, we did not follow up immediately with ideological education of every worker. Consequently, there were some instances of complacency and carelessness. For instance, not enough emergency drugs were prepared for general anesthesia to do grafting, so when the need arose we were caught off guard. This nearly caused complications, and unnecessarily increased the patient's suffering.

4. We shall take stock of the experiences gained in the fight to save Ch'iu Ts'ai-K'ang and through this educate all our workers, improve the work of the college, further temper our workers and strengthen them, and further strengthen the role of the party organization in our college.

LETTER TO THE EDITOR

Dear Sir:

IT MAY be of interest for you to know how I became interested in your Journal.

As a resident at the city and county hospital, here in Houston, I used to have and still have scientific exhibits. It never occurred to me to submit all my articles to a journal for publication. I only mimeographed them and placed these in the scientific exhibits.

Dr. Harold Turner and Dr. Weem Turner, of this city mailed these mimeographed papers to your journal unknown to me. They were published without me ever seeing the proofs. The response all over America was better than any journal down this way, even our state medical journal.

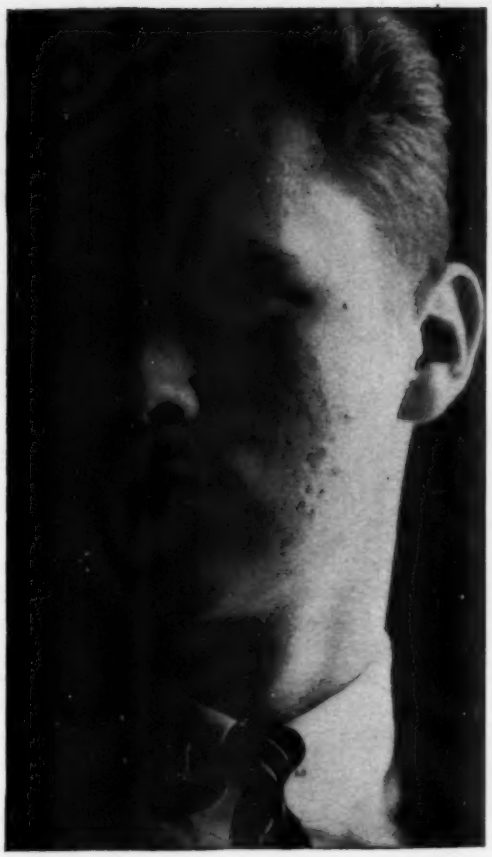
Since then, I have started sending my articles, most of which have never been published anywhere.

I am now director of the Obstetrical and Gynecological Research Institute where I also have my office. It is the policy of this institute that all original articles are first mailed to your journal.

Your journal is doing excellent jobs on these articles. The physicians' response by writing one about articles in your journal is encouraging.

I, too, wish to thank all there for your kindness to me over the years. I am, with kindest regards,

Sincerely yours,
KARL JOHN KARNAKY, M.D.,
Houston, Tex.



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1. Hodges, F.T.: GP 14:86, Nov., 1956.

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Historical Notes

EARLY DAYS OF THE ARIZONA MEDICAL SOCIETY

By John W. Kennedy, A.B., B.S., M.A., M.D.

DOCTOR Orville Harry Brown was apparently one of the first members of our state society to make an organized attempt to collect material about early medicine in Arizona, or especially about the early physicians of Arizona.

An article in the Arizona Daily Star, Tucson, by Dr. Whitmore of that city stated in part, after the 1931 convention, "For the first time an attempt is being made to prepare a history of Arizona medicine — to be a part of the medical history of the United States. Dr. Orville H. Brown, of Phoenix, associate editor of Southwestern Medicine, is in charge of the work. The difficulty will be in securing adequate data concerning the deceased members of the profession. Dr. Whitmore has consented to assist in this work for Pima County. This county — one of the original four divisions of Arizona formerly included both Cochise and Santa Cruz counties." Those who have perused early numbers of Southwestern Medicine have been well repaid for their efforts since Dr. Whitmore has contributed many articles about individual doctors in those issues.

Now about Dr. Brown to whom was delegated some of this effort. Well, he was born near Sabetha, Brown County, Kan., July 18, 1875. He graduated from the University of Kansas with a Bachelor of Arts degree in 1901. He remained there one year as an assistant in physiology; from 1902 to 1904, he was assistant in physiology at the University of Chicago, and in 1905 received a Doctor of Philosophy degree from that institution. He served as assistant professor of pharmacology at the Medical School of St. Louis University and in 1905 received his Doctor of Medicine degree from that institution. He traveled abroad and then returned to serve as assistant professor of medicine at St. Louis University from 1910 to 1916. At the latter date he located in Phoenix, Ariz., and conducted a private practice. He specialized in internal medicine and was nationally known for his work on asthma.

Dr. Brown collected over 1,900 items and articles relating to physicians of early Arizona and to medical practice in this state. At his death, this material was turned over to the state medical society.

The present committee on history and obituary of the state association has organized and alphabetized this material and hope to see it bound. This might be considered the first material for a projected archives of the history of medicine in Arizona. Among the papers was found a note concerning the organization of the Arizona Medical Association and for the benefit of those of us who have not before had the opportunity to study this material, it is quoted in full as follows:

"The Arizona Medical Association was organized in Phoenix, Ariz., in 1892 pursuant to a call by the president and secretary of the Maricopacopa County Medical Association. The letter sent to each Arizona physician read as follows:

" 'Dear Doctor: At a meeting of the Maricopa County Medical Association held in Phoenix on the first Tuesday in this month, the following preamble and resolution were unanimously adopted:

" 'WHEREAS, It is evident that there are many earnest and zealous physicians in Arizona who are willing to contribute of their time and talent towards the general interest of the medical profession and,

" 'WHEREAS, the greatest need of the profession can be accomplished through organization, therefore be it:

" 'RESOLVED, First: That we call a meeting of the physicians of the Territory for the purpose of organizing a Territorial Medical Society, and that said meeting be held in Phoenix, on May 25, (Wednesday) in order that we may elect delegates to the American Medical Association which meets in Detroit, Michigan, June 7, 1892.

" 'RESOLVED, Second: That a committee of three* be appointed to invite all 'regular' physicians residing in the Territory to attend said meeting.

" 'In compliance with said resolution you are most cordially invited to be present and participate in the organization of the Territorial Association. We deem it unnecessary to enumerate the many reasons why we should organize as we

*H. A. Hughes, W. H. Ward, A. E. Martin, Committee

take it for granted that they are evident to all thinking physicians'."

Yours Fraternally, *J. MILLER, PRESIDENT*
L. D. DAMERON, SECY.

"The first meeting was on May 25th in the old Commercial Hotel in Phoenix. The constitution and by-laws were adopted at that time. This particular item further relates, 'Among the early members most of them are still active in the practice in Arizona, are: Drs. George M. Broadway, who joined the society in 1895, Win Wylie and J. W. Drane who joined in 1897, all of Phoenix, W. V. Whitmore of Tucson, B. B. Mueller and John Dennet of Phoenix who joined in 1898, John W. Flinn of Prescott, and E. Payne Palmer of Phoenix and A. M. Tuthill of Morenci, who were made members in 1901.'

"This further continues: 'The first ten presidents of the Association in order of their election were: Drs. J. A. Miller, H. A. Hughes, Ancil Martin, all of Phoenix, P. G. Potter of Yuma, D. M. Purman of Phoenix, Charles H. Jones of Tempe, W. V. Whitmore of Tucson, Win Wylie of Phoenix, T. B. Davis of Prescott, and H. W. Fenner of Tucson. Of the first 20 meetings, 14 of them were held in Phoenix, two in Tucson, and four in Prescott'.

"To name the men who deserve special commendation for their contributions to the success of the Arizona State Medical Association through the years would be almost like having a roll call. Among the older members, however, who deserve mention are: D. F. Harbridge, who has been secretary of the society for 20 years and is still the secretary, John E. Bacon of Miami who has been active in the society in many ways, but especially as chairman of the medical defense committee, C. E. Yount of Prescott who has been the treasurer for about 20 years; other local active members who cannot be omitted are: Drs. John W. Flinn, W. W. Watkins, A. M. Tuthill, E. Payne Palmer, J. E. Drane, W. V. Whitmore, W. A. Holt, and R. D. Kennedy. Dr. Whitmore had the privilege of nominating every president of the Association for many years.

"The Secretary of the Medical Association is always the important officer. During the 45 years in which the organization has had annual meetings, Drs. Green, H. E. Stroud, and W. W. Watkins of Phoenix were the only ones that served just one term. Dr. L. D. Dameron, deceased, formerly of Phoenix, served four years, Dr. O. E. Plath, also deceased, and also of Phoenix, served two terms, Dr. Chas. H. Jones of Tempe, also deceased, served three terms, Dr. John W. Foss, also deceased, and also of Phoenix, served five terms, Dr. John W. Flinn of Prescott served four terms and Dr. C. E. Yount of Prescott served five terms.

"Dr. W. W. Watkins edited the Arizona State Medical Journal for several years which in 1916 was merged with the medical journals published by New Mexico and El Paso County, Texas, and became Southwestern Medicine. Dr. Watkins soon became editor of this new journal in which position he continued until Jan. 1 of last year. The present editor is Dr. Orville Harry Brown of Phoenix. In addition to being editor, Dr. Brown has taken upon himself the task of compiling the medical annals of Arizona. He has a considerable amount of material regarding the present as well as the earlier Arizona physicians. It is particularly difficult to get material about those living. He is anxious to have the physicians of this State give him their complete biographical sketches to be filed in the Archives." Remember this was written in 1931.

The present committee then would like nothing better than to receive contributions from physicians all over the State of Arizona, which in any way relate to the history of medical practice in the fair state of Arizona or to the fabulous physicians who made this history.

Drs. Brown and Whitmore made a notable and auspicious contribution to this effort and it is up to each of us to continue it.

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Topics of Current Medical Interest

ARIZONA POISONING CONTROL CENTER

INTENTIONAL INHALATION OF VAPORS FROM PLASTIC CEMENT

EIGHT incidents of intentional inhalation of vapors from a commercial plastic cement involving teenage boys in Phoenix, Ariz., have been made known to the Arizona Poisoning Control Information Center. The method of administration employed by the youths was to squeeze a portion of the contents of a tube of the cement in a handkerchief and then to inhale the vapors after placing the cloth over the face. One of the youths, who was encountered shortly after he inhaled the vapors, was found to be in a condition resembling inebriation. He was incoherent and staggered. The systematic effects of the vapors lasted for approximately one hour, after which time he had apparently recovered from all effects with the exception of a headache. A recent communication from the manufacturer producing the brand of plastic cement involved indicated that the active constituent of the product is toluene.*

MANAGEMENT OF PHENOLPHTHALEIN OVERDOSAGE

The Phenolphthalein Research Institute has recently provided information concerning the treatment of phenolphthalein overdosage. It is the impression of this group that there is a tendency to employ excessive measures to counteract the supposed adverse effects of overdosage from this chemical agent. This practice is considered to be needless and is more likely to be fraught with harm than prove of benefit. The following suggestions for the management of phenolphthalein overdosage have been made(2):

1. No gastric lavage is recommended. In the early stages it is unnecessary; later, it is useless. It may give rise to complications.

2. Vomiting should not be induced in children, as aspiration of particles vomited may cause complications.

3. Activated charcoal, USP, in teaspoonful doses, suspended in milk, water or a carbonated beverage (but not in fruit juices) should be administered every 1 or 2 hours. If excessive laxation develops, administration of charcoal should be continued until the laxative action subsides.

4. If a very large quantity of phenolphthalein has been taken, it may be advisable to administer a therapeutic dose of castor oil. This will aid in eliminating the major portion of the phenolphthalein ingested. No saline cathartic, alkalies, glycerin, propylene glycol, alcohol, or other solvents of phenolphthalein should be given, as they may increase laxative action.

5. The person should remain quiet, but not confined to bed. The regular diet may be maintained with no restriction of fluids, except fruit juices.

6. Bismuth, kaolin or other bowel movement restraining drugs, except activated charcoal, are contraindicated. They prolong the action of the retained portion of the laxative by slowing up evacuations.

The above research group reports further, that the number of bowel movements following phenolphthalein overdosage seldom exceeds six in the first 24 hours, with two or three movements occurring after that time. The bowel action usually returns to normal not later than the third day. In the cases studied by this group, no instances of prostration, vertigo, dyspnea or any other systemic effects from phenolphthalein overdosage have been observed. Aside from laxation, the course is likely to be uneventful.

Phenolphthalein is a constituent of many proprietary cathartic preparations. Popular among these are Feen-A-Mint and Ex-Lax. Several instances of accidental ingestion by children of the latter product have been reported by the Arizona Hospital Poisoning Control Treatment Centers.

ACUTE POISONING FROM USE OF ISOPROPYL ALCOHOL IN TEPID SPONGING

Isopropyl alcohol is sometimes used for tepid sponging of febrile children. A case report describing acute poisoning in a child following this procedure has recently appeared in the literature.(3) The case involved a 2½-year-old girl with a fever which accompanied an ear infection. In addition to drug therapy, alcohol sponging was prescribed. At midnight, the child was

*Information concerning the degree of toxicity and treatment of poisoning from toluene can be found in the Poisoning Control card file provided for each of the Arizona Hospital Poisoning Control Treatment Centers.

wrapped in a towel saturated with 12 ounces of 70 per cent isopropyl alcohol. A second, dry towel was used to cover the first, and the patient was placed in bed with her aunt. A window in the bedroom was partly open. The following morning the child could not be aroused, and she was limp and totally unresponsive. Her pupils were small and did not respond to light; only corneal reflexes were observed. The patient became apneic for a short period and artificial respiration was required. Urinalysis revealed the presence of acetone in the urine, and the odor on the breath resembled acetone. The blood contained 130 mg. of isopropyl alcohol per 100 ml. The treatment was mainly supportive and included intravenous fluids, oxygen and antibiotics. An endotracheal tube was inserted because of the poor pulmonary ventilation. By the following morning the patient was fully conscious; however, she remained irritable and inactive for several more days. It was thought that the coma resulted from inhalation of isopropyl alcohol.

A similar case history reported in 1953(4) involved a 22-month-old boy in whom acute poisoning also occurred as a result of inhalation of large quantities of isopropyl alcohol. In this case, bed linens drenched with 1¼ pints of isopropyl alcohol were used in the sponging procedure. Within five hours after the procedure, the child was in a comotose state such as that described in the above case. The blood of this child was found to contain 128 mg. of isopropyl alcohol per 100 ml.

In view of the potential hazards of employing alcohol in tepid sponging to reduce body temperature in fever, it would appear that water would be a more desirable liquid to use in the sponging procedure. The use of water should, indeed, be considered in preference to alcohol in febrile states in children resulting from acute poisoning from chemical agents.

When water is employed in sponging, water temperatures below 78 degrees F. should probably not be used, not only because they are sometimes painful, but also because they generate reflex vasoconstriction which impairs their effectiveness. Ice packs and ice water baths are considered to be unnecessarily violent and dangerous.(5)

ESOPHAGEAL STRICTURE FROM ACCIDENTAL INGESTION OF CLINITEST TABLETS

Ingestion of lye is a well-known cause of chemical burns and stricture of the esophagus. Approximately 50 per cent of such burns and almost all strictures result from the ingestion of this agent.(6) One product which contains this caustic and is often found in homes is Clinitest, the tablets of which are frequently employed by diabetics in urine testing. Recently, two cases of accidental ingestion by children under five years of age of Clinitest tablets were reported.(6,7) In each case, a single tablet was ingested and esophageal stricture resulted. In one case, the stricture was complete and surgical intervention was required.

Clinitest tablets contain a combination of anhydrous sodium hydroxide, copper sulfate, citric acid, and sodium bicarbonate. If a tablet is ingested, the heat produced when the sodium hydroxide comes in contact with moisture and the caustic action of the lye can cause a thermal and chemical burn with resultant scarring and stricture of the esophagus. These effects are probably augmented somewhat by the astringent and irritant qualities of the copper sulfate in the tablet.

It is recommended that esophagrams be carried out to confirm the clinical impression of esophageal stenosis or stricture. If the patient has contact with a diabetic and no etiology is apparent, ingestion of Clinitest tablets should be considered.(6)

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STATISTICS OF 53 POISONING CASES REPORTED IN ARIZONA DURING FEBRUARY 1959

		per cent	Number
Age:	Under five years	81.1	(42)
	Six to 15 years	1.7	(1)
	16 to 30 years	6.9	(4)
	31 to 45 years	3.4	(2)
	Over 45 years	0.0	(0)
	Not reported	6.9	(4)
Nature of Incident:	Accidental	92.5	(49)
	Intentional	7.5	(4)
Outcome:	Recovery	100.0	(53)
	Fatal	0.0	(0)
Time of Day:	Between 6 a.m. and noon	41.5	(22)
	Between noon and 6 p.m.	37.7	(20)
	Between 6 p.m. and midnight	5.7	(3)
	Between midnight and 6 a.m.	0.0	(0)
	Not reported	15.1	(8)

CAUSATIVE AGENTS:

Internal Medicines	*Number*	*Per cent*
Aspirin	14	26.4
Other analgesics	0	0
Barbiturates	7	13.2
Antihistamines	1	1.9
Laxatives	2	3.8 (Ex-Lax)
Cough Medicine	1	1.9
Tranquilizers	1	1.9
Others	1	1.9
Subtotal	27	51.0
External Medicines		
Liniment	4	7.5
Antiseptics	1	1.9
Others	2	3.8 (Nose drops)
Subtotal	7	13.2
Household Preparations		
Soaps, detergents, etc.	1	1.9
Disinfectants	0	0
Bleach	1	1.9
Lye, corrosives, drain cleaners	0	0
Furniture and floor polish	0	0
Subtotal	2	3.8
Petroleum distillates		
Kerosene	0	0
Gasoline	1	1.9
Others	0	0
Subtotal	1	1.9
Cosmetics	0	0
Pesticides		
Insecticides	4	7.5 (Antrol ant killer)
Rodenticides	1	1.9
Others	0	0
Subtotal	5	9.4
Paints, varnishes, solvents, etc.	3	5.7
Plants	1	1.9 (castor beans)
Miscellaneous	4	7.5 (red ink–three cases) (chlorophyll deodorizer)
Unspecified	3	5.7
TOTAL	53	100.0

WILLIS R. BREWER, Ph.D.
Dean, College of Pharmacy, University of Arizona

ALBERT L. PICCHIONI, Ph.D.
Pharmacologist and Director, Arizona Poisoning Control Program

LINCOLN CHIN,
Pharmacologist

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1958-59 ANNUAL REPORT OF DELEGATE TO AMA

AT THE request of the speaker of the house of delegates of the American Medical Association, your delegate attended the annual session of the AMA in June 1958, San Francisco, Calif., in the capacity of vice president, rather than Arizona delegate. Our alternate delegate, Doctor Robert E. Hastings, consented to represent our state in the house of delegates. Although not able to stay until the close of all the meetings, Doctor Hastings did attend and was duly registered to serve in the house.

Mr. Robert Carpenter, executive secretary, attended both the San Francisco session as well as the Minneapolis clinical session, in December 1958, at which time your delegates registered and were seated in the house. Both of us attended all the sessions. Upon return, a synopsis of the proceedings was prepared, and this summary was published in *Arizona Medicine*, January 1959.

As a member of the advisory committee to the board of directors of the American Medical Education Foundation, in company with Doctor Harold Kohl, chairman of the State AMEF committee, your delegate attended the annual meeting of the advisory board, board of directors and state chairman, in Chicago, on Jan. 24 and 25, 1959.

During the meeting of the state medical council, Jan. 18, 1959, some matters acted upon by the AMA house of delegates, particularly those concerned with the report of the commission on medical care plans, were presented to council for appropriate action. These were received and referred to appropriate state committees for study and recommendation. It is hoped that the council will have these matters ready for action by the house of delegates when it convenes the latter part of April in annual meeting. Specifically, the national body adopted the recommendation of the reference committee on insurance and medical services that each constituent state association be urged to review the report of the commission on medical care plans, and transmit their decisions with regard to the following basic points:

1. *Free Choice of Physician:*
Acknowledging the importance of free choice of physician, is this concept to be considered as a fundamental principle, incontrovertible, unalterable, and essential to good medical care without qualifications?

2. *Closed Panel Systems:*
What is or will be your attitude regarding physician participation in those systems of medical care which restrict free choice of physician?

These suggestions (those contained in the report of the commission) acknowledge that the policy of the American Medical Association to encourage and support the highest quality of medical care for all patients remains unchanged. They question, however, whether attitudes toward the free choice of physician and the closed panel system may be undergoing evolutionary change.

It is hoped that replies to the foregoing questions can be transmitted to the AMA headquarters 60 days in advance of the June 1959 annual AMA session so that necessary analysis and evaluation of the material can be submitted to the board of trustees and house of delegates prior to the annual meeting.

Respectfully submitted,
JESSE D. HAMER, M.D.
Delegate to AMA

1958-59 ANNUAL REPORT OF NORTHWESTERN DISTRICT COUNCILOR

THE following is a report from the northwestern district in which there has been considerable activity and development of various aspects of medicine. Because of its rapid growth, most of the activity has been in Coconino County as the report will illustrate.

(1) In January 1957 the members of Coconino County Medical Society in the Flagstaff area began panel medical coverage for indigent patients because: (a) Patients have a choice of physicians; (b) Complete medical coverage is available 24 hours a day; (c) This type of a set-up prevents over-burdening of a single doctor with care of the indigents.

The 1957 industrial commission fee schedule is being used to compensate the physicians. So far, this arrangement has proved to be very satisfactory to the patients, the county board of supervisors and the doctors.

(2) In mid-1958, a Coconino County Health

Department was formed and a county board of health of five members was appointed, one of the members being a member of the County Medical Society. A full time M.D. director was employed. This is a marked improvement over the previous set-up.

(3) The Coconino County Medical Society formed a grievance committee and publicized its existence. To date, one case has been investigated and satisfactorily handled. Yavapai County is now organizing a grievance committee.

(4) The northwestern district held a dinner dance honoring Doctor W. R. Manning, president of the state association.

(5) The Coconino County Medical Auxiliary held a benefit bridge party and raised approximately $500 for the pediatric department of the Flagstaff Hospital. This was their initial project and was considered an outstanding success in spite of the infancy and few members of the organization.

(6) Through the efforts of the Flagstaff Hospital board of trustees, administrator, the Coconino County Medical Society, and other interested friends, $100,000 was obtained from funds provided by the Hill-Burton Act for an obstetrical wing to be added this year.

(7) Through professional procurement activities of the Coconino County Medical Society, the following new physicians are now practicing in the county: (a) A general practitioner, (b) a pediatrician, (c) An EENT specialist.

On May 1, 1959, a full time radiologist who is now professor of radiology and head of the department of radiology at the University of Alabama Medical School, will be in Flagstaff and will serve four hospitals in this area.

(8) Through the efforts of the Coconino County Medical Society and the co-operation of the Arizona Division of the American Cancer Society, a Papanicolaou laboratory is now functioning in the Flagstaff Hospital under the supervision of a qualified physician.

(9) Four members of the Coconino County Medical Society are now in the process of forming a Northern Arizona Post-Graduate Medical Seminar which will meet for the first time in Flagstaff, Aug. 6, 7, 8.

(10) A radio and press advisory committee for dissemination of medical information was formed in January 1959, in Flagstaff. This committee is composed of representatives from the three radio stations, the Arizona Daily Sun, the Flagstaff Hospital administrator and a member of the Coconino County Medical Society.

Respectfully submitted,

ROY O. YOUNG, M.D.,
Councilor, Northwestern District

1958-59 ANNUAL REPORT OF THE AIR POLLUTION COMMITTEE

THE air pollution committee has little to report at this time.

The Arizona State Health Department with Phoenix Community Council backing, is sponsoring a bill for statewide study of air pollution. Such a bill and study is desirable and background for further action, although it will do nothing to relieve the current pollution now present in Maricopa County. So far, I know of no other proposed legislation.

It is my personal opinion that study and control should go hand in hand and that as sources are uncovered, some steps should be taken to reduce or eliminate them.

Respectfully submitted,

GEORGE G. McKHANN, M.D.,
Chairman, Air Pollution Committee

1958-59 ANNUAL REPORT OF THE ARIZONA AMEF COMMITTEE

ON DEC. 31, 1958, there were 85 medical schools in the United States. Of these, 78 had approved four-year programs, four were approved two-year schools of basic medical science, and three were developing four-year medical schools. The three schools having newly developing programs, Albert Einstein, University of Florida, and Seton Hall, are not yet fully approved, but their first two years have been provisionally approved and the final two years will be approved when they complete their development to four years of medical education.

In 1958 the 85 medical schools enrolled 8,030 freshmen. This is the largest first year class on record. In addition to this number, the medical schools of the United States were charged with the responsibility of teaching 64,600 other than medical students. This vast number included dental students, pharmacy students, nurses, students in technical subjects, other undergraduates, arts and science majors, candidates for higher degrees, internes, residents and physicians enrolled in continuation courses. This represents a facet of medical school responsibility frequently

overlooked by those not familiar with these activities.

There were 15,791 individual *applicants for admission* to medical schools in 1958. Of this number 8,030 were admitted. This represents a ratio of greater than one admission for every two applicants. Forty-one per cent of all the first year students admitted were from six states (New York, Pennsylvania, California, Ohio, Illinois, Texas). In these six states there are 32 medical schools or 38 per cent of the total. Seven schools (all state owned) enrolled as first year students only residents of the state in which the school is located. *The college grade records* of the 8,030 freshmen admitted to medical schools in the fall of 1958 were as follows in percentage: A. 17.7 per cent; B. 66.0 per cent, and C. 16.3 per cent.

The attrition rates of medical students in approved United States medical schools during the session 1957-58 were as follows: First year — 7.8 per cent; Second year — 3.2 per cent; Third year — 1.3 per cent; Fourth year — 0.3 per cent.

These percentages of enrollment loss represent not only those students who failed, but those who withdrew with poor standing and those who withdrew in good standing. Many factors such as finances, dislike of medicine, illness, etc., account for those who withdrew in good standing. For example, although the attrition rate of the first year class was 7.8 per cent, only 5.5 per cent can be accounted for by those who failed or those who withdrew in poor standing. The tuition and fees range in private medical schools was $592 - $1,280, and in public schools, $120 - $900 for residents, and $416 - $1,300 for non-residents.

COSTS OF MEDICAL EDUCATION

The medical school with less than 10 per cent of the student population takes from 30 per cent to 40 per cent of the university budget. The actual distribution of sources of funds for medical school expenditures 1957-1958 for all schools reporting was essentially as follows:

1. Income from tuition — 6.4 per cent.
2. Income from endowment — 6.1 per cent.
3. Income from general university funds and expenses provided by universities — 16.7 per cent.
4. Income from non-governmental grants for research and teaching — 17.1 per cent.
5. Income for teaching expenses paid by hospitals, clinics, or medical service funds — 6.8 per cent.
6. Miscellaneous income — 1.1 per cent.
7. Government grants for research and teaching including federal (27.9 per cent) and state (17.9 per cent) — 45.8 per cent.

It is to be noted that this represents a composite picture for sources of funds and does not present the analysis of any single institution. For example, the majority of the private schools would receive no state support and many state (publicly supported) schools would have little or no income from endowment, etc.

The American Medical Education Foundation was established in 1951 for the sole purpose of aiding to perpetuate free medical education in our country. Failure to perpetuate that system will inevitably lead to federally supported and controlled schools. During the eight years since AMEF was founded, a total of $7,876,402 has been contributed and distributed to the medical schools of our country. In 1951, the total AMEF income was $745,918 and in 1958 it was $1,133,654. The cost of educating the future physician is high; so high, in fact, that the tuition he pays covers only approximately 18 per cent of the actual cost of his training. Some of this deficit is made up by endowment income coupled with grants and bequests from individuals and foundations. But a gap remains. AMEF funds enable the school to keep valued faculty members, attract others, purchase necessary equipment at the time it is needed. Unrestricted money from AMEF provides the means of helping the medical schools face a great problem without resorting to federal aid and its eventual control.

In 1951, the number of individual contributors to medical education through AMEF was 1,876 and in 1957 this number had increased 44,155. In addition, from records made available to the American Medical Association, 50,364 alumni contributed directly to medical schools in the amount of $3,020,000. It is to be noted that contributions to medical education through AMEF are entirely unrestricted funds although the contributor may designate the school to which his contribution is to go. On the other hand, most of the direct contributions through alumni associations are earmarked for one purpose or another. All monies contributed to medical education through AMEF are distributed in their entirety to the medical schools and no part of these contributions are used for administrative purposes. In 1958, Arizona contributed a total of $12,638.97 to medical education through AMEF. This total

represents $10 per member of The Arizona Medical Association, Inc., as a dues increase, and the balance is made up of contributions from the Women's Auxiliary, from individual doctors who realized that $10 per year did not represent their ability and desire to aid medical education, and from pharmacists, medical and surgical supply houses, ambulance companies, morticians, etc.

In its report for the year 1957, your committee for AMEF included among its recommendations that pharmacists, medical and surgical supply houses, ambulance companies, morticians, etc., be asked to consider making contributions to medical education through AMEF at Christmas time in lieu of gifts to physicians and their families if giving gifts had been their policy. Council approved this recommendation in the fall of 1958. The Arizona Pharmaceutical Association by action of its board of directors enthusiastically endorsed the idea and their reaction to it is reflected in two articles which appear in *Arizona Pharmacist*, Volume 37, No. 1, November 1958. As a result of the approval of council of the Arizona Medical Association, many pharmacists, morticians, etc., did make contributions to medical education through AMEF at Christmas time 1958 in lieu of their usual gifts to doctors. Even though this action was taken late in the season after many of our friends had placed their orders for Christmas gifts, the total monies contributed by our friends to medical education in 1958 amounted to $549. The board of directors of the American Medical Education Foundation has approved this method and this idea and because Arizona was first to recognize this untapped source of funds for medical education, requested your chairman to outline the plan at the annual meeting of state chairmen at the Palmer House in Chicago, Jan. 24, 25, 1959. From the enthusiasm of the state chairmen of the 47 other states who were present, it was likely that most states will adopt this same policy and it is impossible at the present time to estimate the large sum of money which will become available for the support of medical education as the result of these Christmas gifts.

A great, if not the greatest, motivating force in AMEF's efforts was in 1958, as it has been every year, the Women's Auxiliary to the American Medical Association and the state auxiliaries which form the parent organization. Our ladies have made AMEF their number one project annually. Their zeal and untiring efforts have permeated the entire foundation and have served both as an impetus to the doctors and as a medium for education concerning the needs of medical education and for conversion of disbelievers. In 1958, the women's auxiliary contributed over $120,000 to medical education through AMEF. These monies were not lifted from the pockets of sleeping doctors, but rather were funds raised by many and novel means as well as by the expenditure of much time and effort on the part of the ladies. The Women's Auxiliary to the Arizona Medical Association was responsible for a magnificent contribution of $1,246 in 1958. We, as doctors, can take a lesson from our wives who have apparently realized the gravity of the financial crisis which continues to confront free medical education far more than we have. *Ladies, we salute you!*

RECOMMENDATIONS:

Your committee has no specific recommendations for 1959. It does believe, however, that if every physician in the State of Arizona would give some time and tought to the great problem of financing which faces medical education today, each one would feel his responsibility in a much larger way and as a result would send a contribution to medical education through AMEF in addition to the *less than three cents a day* that he contributes in his $10 per annum dues increase.

Respectfully sumbitted,
HAROLD W. KOHL, M.D.,
Chairman,
Arizona AMEF Committee

Federal Action Related to Medicine

SOCIAL SECURITY FOR PHYSICIANS?*

By Thomas Parker, M.D.
Greenville, S. C.

IN THE consideration of social security in general, it might be well to start with the premises upon which the social security program is based.

The first is that everyone upon attaining a given age or condition of decrepitude is entitled to federal benefits, primarily money, but possibly other services. As the grasshopper sang, "The world owes me a living." Under certain conditions, the benefits may be denied because of excessive residual initiative or failure to comply with technicalities.

The next proposition is that it is right for everyone to be forced to provide these benefits for himself. This, of course, is the authoritarian concept that it is right actively to force people to do something someone else thinks is right, as opposed to the libertarian concept that force should be used only to prevent wrong-doing. One has to use force occasionally to train animals and children, but authoritarians treat adults as children.

Third, the force to be exerted for the provision of these benefits is taxation. It is assumed that this is a fair, democratic and desirable means.

Fourth, it has been asserted that since taxation is used for the provision of the benefits, those being taxed are paying their own way. It is becoming increasingly obvious, however, as congress changes the law year after year increasing "benefits" and taxes, that the present beneficiaries did not provide that which they receive, but that it is in reality federal largesse, extracted from present taxpayers who will have to get theirs later from still other and younger taxpayers. For those who receive benefits to provide them for themselves, it is obvious that taxes should be collected before benefits are disbursed and that once a person becomes a beneficiary, his benefits are fixed, because he will never pay any more taxes. In a backhanded though important way, the federal government recognizes that social security payments do not represent earned income, since they are classified as charity and hence tax-exempt.

There are many reasons why doctors should oppose being included in social security. Perhaps the most obvious is that the system is financially unsound. Prior to this year, social security income exceeded outgo, primarily because eligible beneficiaries represented only a small percentage of those included in the system. The majority of those paying taxes were not eligible to receive benefits. This year, however, as more and more people become eligible to receive benefits, payments exceeded receipts. Although taxes are scheduled to rise progressively every few years for some time, there are many who feel that income will never again exceed disbursements for very long, even without the addition of extra benefits by congress every year or two. Liability for present promised benefits will always exceed the estimated income. And how high can such taxes go? For the self-employed they are presently scheduled to reach 6 per cent by 1975, but in some South American countries now they are 25 per cent of payroll, and in France as much as 35 per cent of payroll. Bill S. 3508, proposed by Senator Morse, would periodically increase the tax rate so that by 1975 the employe and employer each would be paying 5.5 per cent on a wage base of $6,000, and self-employed would be paying 8.25 per cent. Certain increased benefits in public assistance are provided and the funds for this increase would come from increased appropriations from general revenues. One should realize that the social security taxes are deducted prior to income taxes and there are no allowances for dependents, etc., so that this is an additional tax on gross income. (JAMA, July 19, 1958, p. 1520.)

More Than National Debt

In addition, there are those equipped to calculate such things who estimate (for social security experience and practice do not permit sound actuarial computation) that the present obligations of the social security system exceed $280 billion — more than the current, nominal national debt. This sum is represented by $20 million in cash — the petty cash account which,

*Reprinted from the October 1958 issue of The Journal of the South Carolina Medical Association, Vol. LIV, No. 10.

with the tax income, keeps the present payments going – and the remainder in government bonds, the actual cash having been transferred to the general treasury funds and spent. This means that when the social security system needs its money for payments, it must endeavor to redeem its bonds, which can only be done by collecting the cash a second time from the taxpayers.

In addition to the above financial consideration, it should be said that in other countries which have provided social security, such as Germany and England, the special taxes counted upon to support the system have proved inadequate and general tax revenues have had to be tapped. But what excess general revenues are available to the United States, currently operating annually billions of dollars in the red, and where shall we find a daft, rich uncle to subsidize our folly for free?

In addition to the disreputable financing described above, it should be realized that social security numbers have no cash surrender value or value as collateral, as conventional insurance policies do – since indeed, as explained, the so-called savings have already been spent, and benefits promised are not guaranteed, but dependent upon the whim of congress which can change the law any time.

Further discussion of the premise that everyone is entitled eventually to a government subsidy is in order. At least in the world of nature, both among animals that operate as individuals, and those that are organized into communities, in order to receive, one must produce. (We hope that the consideration of man as an animal is not offensive, but in discussing sociological problems we must use sociological concepts; and in the welfare state we are discussing animal husbandry, with no regard for morals.) By analogy at least, therefore, only individuals who are or who have been productive should receive such benefits – which in turn is the capitalistic concept, as opposed to the welfare state proposal. Nonproducers, therefore, if they receive benefits, would receive them as charity for moral reasons (again a capitalistic concept), and not as a right.

The proposal that individuals should be forced to provide for themselves is intriguing. One suspects that often the presentation of such schemes as good will toward men is quite the reverse, and is composed of a combination of a desire to do good with someone else's goods (assumption of un-earned power), the unwillingness personally to provide for others, and contempt for the abilities and standards of one's fellow men. Surely all doctors have seen old people who prefer their own squalor to the opulence of institutional residence.

Two Alternatives

The necessity of forcing everyone to provide for himself is presented as the only alternative to a situation of distress otherwise intolerable. As a matter of fact, there are two traditional alternatives. The first is that the individual should be allowed to do without if he chooses, like the grasshopper in Aesop's fable. The other is for wealthy philanthropists to alleviate the conditions through endowments, foundations and memorials. It is, of course, true that such charities do not alleviate all the existing distress – but it is also true that they are usually administered in such a way as not to create papuerism and additional need. Of course, for a confirmed Socialist, both wealth and philanthropy are as objectionable as economic suffering; indeed they are themselves varieties of economic illness, and should be done away with.

As regards taxation, it should merely be mentioned that all methods of taxation are not fair and equal, and that one must always consider whether the purpose of taxation is to raise money for legitimate governmental functions, or to produce forcible economic change or redistribution of wealth under the guise of legal respectability. Whether the taxpayer is in fact paying his own way, or the way of another, would also seem pertinent.

The rules governing eligibility for social security benefits are so strange and changeable that they will not be discussed here. Suffice it to say that if the benefits are rights provided by taxation, or gifts provided by federal largesse, it hardly seems just to deny them to anyone superficially eligible on grounds of age or decrepitude because of minor technicalities.

The objections to the social security system given above are general and apply to people in all classes of life. There are, however, particular reasons that should cause doctors to wish not to be included. The first is that physicians rarely retire at the age of 65. If they don't, and earn $1,200 per year from their profession, they will receive no benefits until they reach 72 – so that the chances of their benefits equalling their payments are poor, given normal

life expectancy and fair health. The second is that, barring trick situations such as that of the young physician who became the father of twins 18 months after he entered the social security system and then dropped dead, they can obtain better insurance cheaper from private companies, and this coverage, in addition, will have cash surrender and collateral value and a guaranteed eventual payment regardless of the financial success the insured person may have achieved in the meantime.(1) A situation so much more common and probable that it can hardly be called trick is given in the Journal of the South Carolina Medical Association for July 1958: "Social security says: 'A wife or widow under 62 or the divorced wife of an insured person may receive payments only while she has in her care a child (under 18 years of age) who is entitled to monthly payments.' Thus, many widows who married in their 20s and lost their husbands in their 40s, would not receive any survivors' benefits until they reached age 62 because their children would be 18 or older." It cannot be denied that it is possible for physicians of 63 to enter the system, make payments for 18 months, and then retire and draw lifelong benefits; but surely most physicians are not looking for a chance to defraud their fellow citizens and descendants through legal technicalities.

The final reason for physicians is this: No one can in good faith and with honor seek to obtain federal cash benefits for himself and his family, but oppose on lofty moral grounds the provision of federal medical benefits (socialized medicine), such as are currently proposed in the Forand bill, for example. No honorable person should exchange his birthright for a mess of pottage.

THOMAS PARKER, M.D.

REFERENCE

1. Webster, R. C. and Coffey, R. L. JAMA., 162:231 (Sept. 15, 1956).

UNION ABANDONS CLOSED PANELS AS 'ANTIQUATED'*

TRUSTEES of a large union health-welfare plan have decided to abandon two closed panel clinics because they now are convinced that the best medical care can only be provided when there is free choice of physicians and hospitals.

The complete reversal of union health care trends was made this month by Chicago Truck Drivers, Chauffeurs and Helpers Union, Local 705 (Ind.), whose 9,500 members have 35,000 dependents.

In explaining the decision to close the six-year-old clinics, in favor of a new union health plan which allows free choice, Edward Fenner, the union's Columbia University-educated executive director, told the AMA News:

"The so-called closed panel method of maintaining medical clinics and making them available is antiquated.

Free Choice

"We believe members should have the right to choose their own physicians and hospitals rather than have this dictated to them. Only in this way will they seek adequate treatment and, therefore, have the best possible medical care."

Fenner also said he hopes the United Mine Workers "will go back to a plan giving the members free choice of physicians."

Asked about rumblings by steel workers and auto workers that they may also adopt a closed panel system for their health care program, Fenner exclaimed:

"That would be a gross error!"

According to the labor leader, one of the reasons for the union clinic failure in Chicago was that the people were spread over a wide area and transporting them to the health centers was not practical.

Labor Leader Praised

Dr. Charles E. Thompson, the union's medical consultant, said a basic reason for the change was that the members "wanted to go to their own doctors."

Dr. Thompson praised Fenner in this way:

"He is an extremely responsible labor leader whose basic philosophy is to serve the people and not just create large cash reserves or build large buildings."

Significantly, the change was made even though the workers did not have to pay extra for medical care at the clinics, while the union's new plan involves a participating policy under which members and dependents will pay part of the cost.

Others Closed Clinics

The Chicago union's action was the third of its kind in the past few months. Last December, two Amalgamated Meat Cutters' clinics in the New York City area closed their doors.

Fenner said he is very pleased that the Chi-

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cago Medical Society is co-operating with the new plan. The society has a grievance committee to which the union's medical consultant can report any charges of abuse, either on the cost or quality of medical care.

An outstanding feature of the new plan is that it has scrapped a schedule of rates for medical treatment.

Other basic features of the new plan are:

Members and dependents will have free choice of physicians and hospitals.

Union pays 75 per cent of medical and surgical costs incurred.

A $25 deductible for visits for non-surgical care per-family, per-year.

No deductible for surgery. Plan pays the first $25 for surgery and 75 per cent of the cost in excess of $25.

Plan pays all hospital costs up to $200 and then pays 75 per cent of the charge above this amount.

A brochure explaining the new plan is being prepared. The new program will go into effect July 1, and the clinics will gradually cut down their functions and close for good at the end of the year.

AMA INTERNATIONAL MEDICAL RESEARCH BILL

SENATE bill (SJ Res. 41), backed by 58 senators of both parties, calling for an institute for international medical research has received some impressive indorsements from organized medicine, and leading medical scientists during hearings by the labor and public welfare committee. Dr. Gunnar Gundersen, of LaCrosse, Wis., president of the AMA, offered "full support and assistance" to the setting up of the institute and the creation of a national advisory council for international medical research.

Commented Dr. Gundersen: ". . . we believe that the promotion of international health through research is one of the best means of promoting international co-operation and understanding . . . There is a growing recognition that medicine, with its resources and influence fully mobilized, can perhaps do more for world peace than the billions of dollars being poured into armaments. There is a mounting conviction that the time has come when medical statesmanship must be used to augment the methods of political diplomacy."

Dr. Gundersen made several suggestions for the committee's consideration: (1) that the World Medical Association be included among the international groups to be co-operated with, (2) that due care be taken not to "rob" other countries of experts in medical care and scientific research through support grants not geared to salary differentials, (3) that the program should be primarily one of research itself rather than construction of research facilities, (4) that the greatest care be exercised in setting up the research grants and research programs to avoid overlapping.

In reply to a question on the reported high number of Russian medical graduates, Dr. Gundersen said it was his impression that many of these graduates were distinctly inferior to their U. S. counterparts. He expressed the view that the physician in Russia did not enjoy professional standing anywhere near that of other Soviet scientists.

PRESIDENT APPROVES NEW VA BED POLICY

PRESIDENT Eisenhower has given his approval to a new veterans' administration hospital bed policy which VA Chief Sumner Whittier calls "a real milestone in the hospitalization of our nation's veterans." At the same time it strengthens the hand of VA in its disputes with the budget bureau and veterans' groups on bed numbers and bed policies. The policy was outlined to the house veterans' affairs committee and met general approval. It includes:

1. The President sets a 125,000 authorized bed capacity in VA installations, for service-connected cases and for non-service-connected cases unable to defray expenses and where beds are available. Ratio today is about 60 per cent non-service-connected and 40 per cent service-connected. Mr. Whittier says the gap in these percentages will continue to widen because service-connected load will decline.

2. Greater flexibility in locating beds where need is greatest. In other words, the administrator can shut down a hospital for lack of patients or inability to recruit personnel, and have them transferred to another facility.

3. Authority to shift utilization of beds, say from tuberculosis to neuro-psychiatric cases. In 1950 VA had 16,195 TB beds in operation; last year this had declined to 10,250.

PUBLIC APATHY THREATENS POLIO GAINS

Recent progress against paralytic polio is threatened by the fact that only half the U. S. population under the age of 40 has had the full series of Salk inoculations.

In its monthly statistical bulletin, *Progress in Health Services*, the foundation pointed out that the number of cases of paralytic polio rose in 1958 after declining each year since the introduction of the Salk vaccine in 1955.

"Public apathy about the injections may be an unfortunate result of scientific progress," said George Bugbee, foundation president. "Recent advances against polio have been so striking that many people may look upon it as a disease of the past."

Up to a few years ago, the foundation reported, "polio was a widespread and constantly increasing danger, and little could be done to control it." The number of cases in this country rose steadily through the first half of the century, reaching a peak of almost 58,000 in 1952.

With the coming of the Salk vaccine, however, the incidence dropped sharply, and in 1957 only 5,500 cases (including 2,500 paralytic) were reported. "The evidence is now overwhelming," said the foundation report "that the full series of three or more Salk inoculations provides a high level of protection from paralytic polio."

"Provisional figures for 1958 indicate that the number of cases rose to more than 6,000, including 3,100 paralytic cases. Most of last year's victims were persons who had not been fully vaccinated, and local epidemics were concentrated among the less advanced socio-economic groups, where levels of vaccination were lowest.

"The major problem today is to bring the benefits of the Salk vaccine to the entire population, especially those under age 40," the foundation stated. Estimates by the national foundation for the end of 1958 indicates that 41 million persons in this age group had not been vaccinated at all, and an additional 16 million were incompletely vaccinated.

"Only 57 million — one half of the population of this age group — had had the full series of three or more shots. Vaccinations were distressingly few during 1958. The need is sharpest at the pre-school ages and at 20-39, where only 45 and 30 per cent, respectively, are fully vaccinated."

Medical authorities suggest that the Salk vaccine protects against polio for at least three years and possibly longer, the foundation reported. Moreover, "no break in the safety of the vaccine has shown up since 1955."

Current research efforts cited by the foundation include an attempt to develop a more powerful vaccine that can be taken by mouth. But "universal immunization" with even the present vaccine could signal "the virtual end of mankind's most destructive diseases."

KEOGH BILL GOES TO SENATE: TIMETABLE UNCERTAIN

With surprising ease, the house dispatched to the senate the Keogh-Simpson measure for tax deferral by the self-employed of up to $2,500 annually. Although there were rumblings that the legislation might encounter stiff resistance due to the recent stand of the administration against the bill, only some 15 or 20 lawmakers of more than 200 house members on the floor shouted "No" on the voice vote tally. Opponents decided not to press for a roll call. The big question in the senate is whether backers will push for hearings this year or wait until next session when the budget issue may be more settled. A bill stays alive, of course, for the entire two-year term of a congress, but must start all over again through the entire legislative process if not enacted at the end of a congress. There are almost two entire sessions now for consideration of the measure in the senate, unlike last year when Sen. Harry Byrd (D. Va.), chairman of the senate finance committee, refused to chart hearings on the house-passed bill on grounds it was too late in the session.

MISCELLANEOUS

The Office of Civil and Defense Mobilization is drawing on the special skills of the American College of Radiology; it is asking the 5,000 members to help their home communities develop radiological defense techniques. OCDM says the radiologists are vital in getting a rapid and accurate evaluation of the extent and intensity of fallout across the nation in the event of nuclear attack.

The housing and home finance agency has made loans to two hospitals and one medical college under the college housing program to help build intern and student nurse housing. A loan of an unspecified amount went to Jeffer-

son Medical College in Philadelphia for a dormitory to house 338 nurses; a $234,000 loan to Seaside Memorial Hospital, Long Beach, Calif., for an apartment for interns, and a $450,000 loan to Trinity Lutheran Hospital Association, Kansas City, Mo., a home for 180 nurses.

Ephraim Roos Gomberg, member of the board of directors of the Pennsylvania Citizens Association for Health and Welfare, will be director of the 1960 White House Conference on Children and Youth.

A newsman with nearly 20 years' experience, Jack Tait, has been appointed assistant for public affairs to Secretary of Health, Education and Welfare Flemming. Mr. Tait was formerly with the New York Herald Tribune and Newsweek magazine.

Four Soviet scientists are visiting U. S. research centers in a study of endocrinology. Their month-long visit will be followed by a similar tour of the U.S.S.R. by four American endocrinologists on an exchange basis.

NEW LEGISLATION

A bill (HR 3301) has been introduced that would add still another institute to the National Institutes of Health. Representative Green (D. Ore.) proposes a national institute of geriatrics which would make grants and award fellowships in the field of geriatrics. A national advisory geriatrics council is provided for.

Senator Mundt (R. S.D.) proposes in S. 936 to amend the Hill-Burton Act to make mental health centers or clinics eligible for grants under the diagnostic and treatment centers section of the act.

In SJ Res. 43 by Senator Javits (R. N.Y.) and others, a 15-man bi-partisan health services study commission would be created and directed to make a year-long study of the health services needs of the population, as well as the effect which expanded health insurance would have on the adequacy of the present number of health personnel and facilities.

SENATORS MAY IGNORE HEW'S VIEWS ON INTERNATIONAL RESEARCH BILL

The chairman of the senate labor and public welfare committee, Senator Hill (D. Ala.) still favors a new national institute for international medical research, despite the administration's stand that its creation would cause too much rigidity in the expanded program of international health and medical research envisioned in the Health for Peace Act (SJ Res. 41). Hill is one of 58 senators of both parties pushing the bill. He indicated committee Democrats would insist on the new institute and a $50 million a year authorization for the program after Secretary of Health, Education and Welfare Flemming presented the administration's views. Flemming also questioned an authorization of that size, saying it might lead other nations to expect too much of the U. S. He urged that the question of money be left open, but Senator Hill and other committee members hinted the $50 million figure would be kept in the measure.

PUBLIC HEALTH CONSULTANT QUESTIONS AEC RADIATION SAFETY ROLE

Dr. Russell H. Morgan, professor of radiology at Johns Hopkins University, is among those who question the Atomic Energy Commission's dual function of developing atomic energy and determining the health and safety factors involved. Dr. Morgan recently told a joint congressional atomic energy subcommittee "there is no such thing" as a safe radiation level, despite widely accepted belief to the contrary. He heads a special advisory committee on radiation of the U. S. Public Health Service which soon will recommend a broad program to control and measure the total radiation being received from fall-out. The report will deal with medical treatment. The subcommittee which received his testimony is studying radiation hazards in relation to possible new legislation in industrial and other fields.

HOUSE COMMITTEE APPROVES HOUSING BILL; GOES TO RULES COMMITTEE

The house banking and currency committee has approved a slightly different version of the senate-passed omnibus housing bill for eventual house consideration. Both bills authorize proprietary nursing homes to seek FHA loan guarantees on new construction or renovation up to 75 per cent of the project cost. Unlike the senate bill, the measure does not provide any appeal provision when a nursing home is refused a certificate of need by the state Hill-Burton authority. The senate bill permitted the applicant to appeal a turndown, with the final decision then resting with the federal housing administrator. The bill now goes to the house rules committee, where it faces an uncertain future.

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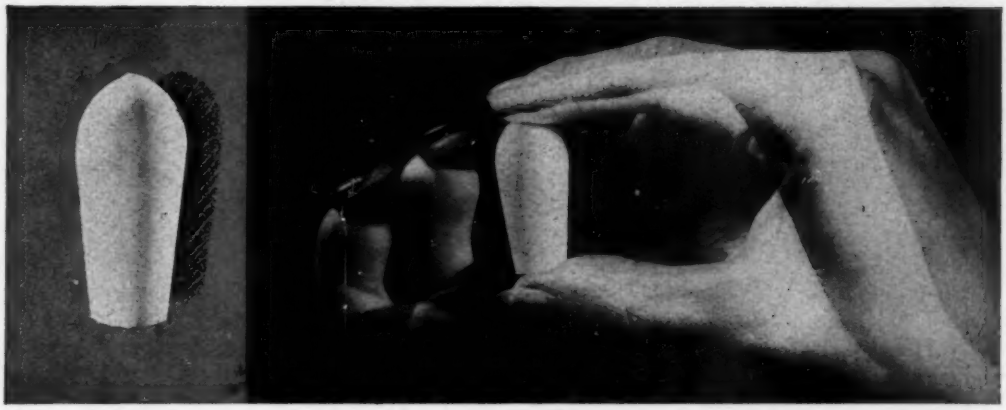

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American Cancer Society

CANCER — HEALTH INFORMATION FOUNDATION

ALTHOUGH great progress has been made recently in cancer research and treatment, this disease constitutes a "steadily increasing health problem" in this country.

In its monthly statistical bulletin, *Progress in Health Services,* the Health Information Foundation pointed out that more than 250,000 Americans died of cancer last year. The present death rate is about 60 per cent higher than the 1900 rate. During the last half-century, cancer has risen from seventh to second leading cause of death.

Certain types of cancer — notably leukemia and cancer of the respiratory system — have become steadily more important causes of death in the last 25 years.

On the other hand, cancer of the digestive system has shown a relative decline during the same time period, although it still kills more people than any other type of cancer. Cancer of the digestive system caused half of all the cancer deaths in 1930, but only one out of three such deaths in 1958.

Another cancer trend noted is a shift in the sex ratio. Early in the century more of the cancer victims were women, but the male mortality rate now exceeds the female by 22 per cent.

The mortality rate for women has been declining since the 1930s. In contrast, male mortality from cancer has continued to rise — "in part because of the rapid rise of respiratory cancer among men, but also because in general cancers afflicting males more often occur in less accessible sites."

"Whereas a few years ago only one cancer patient out of every four survived for five years or more, now the record shows one of every three so surviving. Thanks to modern methods of treatment, an estimated 150,000 individuals were saved from cancer deaths last year."

The picture would be brighter, George Bugbee, foundation president, continued, if more people saw their doctors for regular checkups so that the disease would more often be diagnosed in its early stages. He cited a recent survey, sponsored by the foundation and conducted by the University of Chicago's National Opinion Research Center, which showed that 45 per cent of the persons in the 65-and-over group had not had a medical checkup for five years or more. A quarter of all the older people had never had such an examination. Yet more than half the cancer deaths nowadays occur among people in this age group.

COMMON HYPOTHESIS — ? REFUTED

THE AMERICAN Cancer Society disclosed an intensive statistical study of social, economic, emotional and other factors suspected as causing cancer has been under way for more than two years. Scientists at Roswell Park Memorial Institute are conducting it.

The study, which was organized on July 1, 1956 and may be concluded this year, already has begun to yield data, some of which confirms or challenges various hypotheses of the cause of the commonest kinds of cancer.

The research was made by Dr. A. M. Lilienfeld (now at Johns Hopkins University) and Dr. Morton L. Levin as responsible investigators and Dr. Saxon Graham as research director. It covers the health histories of about 30,000 patients admitted to the Roswell Park Memorial Institute for 12 years perior to the start of the study, and the physical, social and other characteristics of 3,500 patients admitted during each year of the study.

While almost all the results of the study must await final coding and punch card correlation, as well as careful analysis of the data, a few observations already have come to light.

One of the earliest analyses may tell whether stout women are much more prone to cancer of the body of the uterus than are slender women.

One phase of the study casts doubt upon the authenticity of reports by several scientific groups that the wives of unscircumcised men have much more cancer of the neck of the uterus than do women whose husbands have been circumcised. Physical examinations here disclosed that 34 per cent of the men studied apparently were misinformed as to whether or not they had been circumcised — 75 of the 213 men reported erroneously that they had or had not been circumcised. The Buffalo scientists feel that the statements of wives as to whether or not their husbands were circumcised

– the evidence on which some scientific groups base their conclusions – are no more reliable than the statements of the men themselves.

Among common hypotheses which may be confirmed or invalidated by the Buffalo studies are:

Stomach cancer is said to be commonest among middle and lower social and economic groups, people with unhealthy teeth and gums, descendants of immigrants from Middle and Eastern Europe, heavy drinkers, and eaters who don't chew their food sufficiently or who take very hot foods and drinks.

Cancer of the uterine cervix is reputedly most frequent in women who marry early in life, have children early and lots of them, have menstrual pains, tensions and nervousness and have been divorced or widowed or recently bereaved.

Lung cancer is reported commonest among people who smoke many cigarets and smoke them short. Some contend their emotional status is responsible for lung cancer and the smoking habit.

Breast cancer is said to be commonest in women who don't marry or, if they do, have no children or few children and who can't or don't nurse their babies.

Leukemia is reported most frequent in people whose mothers were irriadiated while pregnant and in people with a history of allergies and infections. Others say it may be caused by a transmissible virus.

Atherosclerosis is said to be common in patients with lung cancer and uncommon in those with cancer of the breast, prostate or stomach.

Among the factors under investigation for cancer generally and for individual sites are race, religion, marital status, social and economic status, number of marriages, length of time married, rural or urban residence, occupation, unemployment, history of previous drugs, menstrual complaints, history of pregnancies and nursing practices, exposure to cancer, history of cancer and other diseases in the family, how one smokes, body build, personality traits and personal hygiene.

CORTISOL

THE CHEMICAL block responsible for one kind of pseudo-hermaphroditism has been worked out by a scientist at Children's Hospital in Philadelphia. The condition is controlled with cortisol, a hormone the patient can not make.

This was reported by the American Cancer Society, which supports research by Dr. Alfred M. Bongiovanni.

The studies were carried out over a period of years in people with congenital adrenal hyperplasia, or CAH.

Girls with CAH become masculinized – they have a male muscular build, deep voices, poorly developed breasts, overdeveloped secondary sexual structures resembling the male, and they can not menstruate, ovulate or become pregnant.

Boy victims of CAH are sexually precocious and overmasculinized – in male babies the condition is known as Infant Hercules.

Dr. Bongiovanni for many years has studied the chemical manner in which adrenal glands manufacture hormones. His big chance to trace the distorted adrenal chemistry of CAH came when other scientists sent him the adrenal glands of two children, 18 and 30 months old, who were victims of CAH.

The CAH adrenals were incubated in laboratory dishes and the hormones they contained and produced were identified and measured. The CAH adrenal hormones then were compared with those produced by incubated adrenals from normal children, normal adults and cows. The human adrenals were obtained shortly after death, at autopsy, or following surgery.

The comparisons told the story:

Both CAH adrenals manufactured 20 or more times the normal amount of 17-hydroxyprogesterone. But the CAH glands were totally lacking the completed hormone, cortisol, which normal glands manufacture.

Dr. Bongiovnni learned that on the chemical assembly line of normal adrenals the last four conversions transform 17-HP (17-hydroxyprogesterone) to 11-DC (11-desoxycortisol) and lastly to cortisol.

The Philadelphia scientist found enormous amounts of 17-HP in the CAH adrenals but no 11-DC. When he incubated 11-DC, the assembly line started up and cortisol was produced.

The defect in CAH glands became obvious – it was due to the absence of an enzyme system which adds hydrogen and oxygen atoms at the

21 carbon atom in the hormone molecule.

The results indicate that, theoretically, the CAH children whose glands were tested could have been treated successfully with cortisol. They can.

The CAH children-donors of glands were not hypertensive, as many CAH victims are. It remains to be seen whether hypertensive CAH patients have a different block in the cortisol assembly line. If this can be located, it may throw light on the chemical mechanism responsible for some forms of hypertension and suggest ways of treating this common and severe disease.

SEDOHEPTULOSE PHOSPHATE

THERE may be "nothing new under the sun" – but there's something new out of the sun.

Scientists at Tufts University School of Medicine and the New England Center Hospital have found a photosynthetic carbohydrate in the liver.

The product of photosynthesis is called sedoheptulose phosphate. It was extracted from calves' liver.

The scientists are Drs. Vijai N. Nigam, Hsien-Gieh Sie and William H. Fishman. They don't know how the compound was formed in mammalian liver. Scientists previously had believed it to be made only by the sun's action on chlorophyl. It is possible to produce it in a test tube with a fresh liver extracted acting on other sugars, however.

ARIZONA STATE DEPARTMENT OF HEALTH — NURSING HOMES

IT IS THE responsibility of the State Department of Health to inspect and license all nursing homes, sanatoria, rest homes, homes for aged and infirm persons and similar institutions in Arizona which render nursing care for two or more unrelated persons.

Under the Minimum Standards Rules and Regulations for the licensing of nursing homes, the co-operation of the attending physician who cares for the patient in the home is necessary to help the operator meet the following requirements:

Item VII – Patient Accommodation

18. Individual prescriptions shall be kept in the original container, with the original label intact showing the name of the patient, name of the physician, the prescription number, the date filled, the directions for use, and the name of the pharmacy that filled the prescription. Prescriptions shall only be dispensed to the patient for whom prescribed. Unused medications except narcotics or sedatives prescribed for individual patients shall be given to the patient only on the doctor's orders when they are discharged from the home.

21. No patient shall be restrained except on written and signed order of a physician. If a patient becomes suddenly disturbed, so that he becomes a menace to himself or others, safe restraint may be applied by the person in charge, but the physician's orders shall be secured at the earliest opportunity. In applying restraints, consideration should be given to the method so they can be speedily removed in case of fire or other emergency.

22. It is required that the nursing home operator obtain a statement from a physician on the health condition and needs of a patient on admission.

25. A physician shall be notified immediately when a patient is suspected of having a communicable disease. Arrangements should be made to isolate such patients.

30. Each operator of a nursing home shall keep sufficient records to identify persons or patients present at the institution or their past presence in the institution, and any other records which may be required by the State Department of Health. The State Department of Health requires the following records for each person in a nursing home:

1. *Admission Card* – This includes date of admission, admission number, name and address of patient, name of doctor, nearest relative, and other pertinent information.

2. *Doctors' Orders* – Must include all medications and treatments signed by their physician.

3. *Nursing Notes* – Records of medication, treatment and observation of patient in the home.

4. *Daily Activity Book* – For long term patients in the home, who receive only sheltered

care.

Your co-operation will do much to improve the quality of care of elderly people and others who require the services of nursing or rest homes.

Very sincerely yours,
CLARENCE G. SALSBURY, M.D.,
Commissioner

DIRECTOR OF CARDIO-RESPIRATORY DEPARTMENT

ST. LUKE'S Hospital wishes to announce the association of Hugh B. Hull, M.D. as full-time director of the Cardio-Respiratory Department. Dr. Hull graduated with an M.D. from Ohio State University in 1944, Interne, Good Samaritan, Hospital, Phoenix, Ariz. July 1, '45 to April 16, '46, resident in medicine, Ohio State University Hospital July 1, '47 to June 30, '49, resident in cardiology, White Cross Hospital, Columbus, Ohio July 1, '49 to June 30, '50, fellow in cardiology and ass't. instructor in medicine, Ohio State University, College of Medicine, Columbus, Ohio July 1, '50 to June 30, '53, acting chief, research laboratory, Ohio Tuberculosis Hospital, Columbus, Ohio Nov. 1, '51 to Sept. 30, '52, ass't. professor of physiology, Ohio State University, College of Medicine, Columbus, Ohio Jan. 1, '52 to present, ass't. professor of medicine, Ohio State University, College of Medicine, Columbus, Ohio July 1, '53 to present, American Board of Internal Medicine, 1955.

Dr. Hull will supervise the cardiac clinic at the hospital, the catheterization group and the pulmonary function studies. Appointment for these advanced types of procedures should be made through the clinic secretary, Miss Margaret Nevin at AL 8-8011.

THE ARIZONA MEDICAL ASSOCIATION, INC.

LOCATION OPPORTUNITIES

ASHFORK — Population 700 — north centrally located — railroad center — contact the Women's Club, Ashfork, Ariz.

CAMP VERDE — Located in the heart of a large farming and ranching area on the Verde River. Approximately 100 miles north of Phoenix. Badly in need of a medical doctor. Contact Ivy N. Moser, R.N., Camp Verde, Ariz.

EL MIRAGE — Population 2,000 — and including the trading areas of Surprise, Youngtown, Peoria and Luke Air Force Base the population is estimated at 7,000 to 8,000 persons. Opportunity for a GP due to retirement of doctor currently serving, with the possibility of school service. Climate is excellent, warm and dry. Office facilities are available and in the area surrounding El Mirage from Glendale (9 miles) to the east, and Wickenburg (35 miles) to the west there are only two doctors to serve this community. The need for an M.D. and/or surgeon is very real and one should do very well. For information write Mr. H. Faulkner, town clerk, Town of El Mirage, El Mirage, Ariz.

GILA BEND — Population 2,500 — 80 miles west of Phoenix — nearest town to the Painted Rock Dam Project — good opportunities for GP. Cattle, cotton, and general farming. Office and equipment available. $150 monthly income from board of supervisors. Contact Mrs. J. F. Allison, Box 485, Gila Bend, Ariz.

HAYDEN — Population 3,000/4,000 — industrial practice — approximately 200 employes and dependents. Only part-time required. Coverage; Metropolitan Surgical Plan. Physician may engage in private practice also. Small company-owned clinical building (new) available for use, with X-ray equipment, diathermy equipment, etc. Full-time nurse available to assist; clerical work to be handled by company. Company housing facilities available for physician — small rental. Contact: American Smelting & Refining Company, Mr. Ben Roberts, Department Manager, P. O. Box 1111, El Paso, Tex.

MIAMI — Opportunity for GP — industrial hospital staffed by approximately seven doctors, who care for personnel and families of those who work for the three principal mining companies. Community served by many mining and ranching interests. Contact Robert V. Horan, M.D., Miami Inspiration Hospital, Miami, Ariz.

MORENCI — Mining community near New Mexico-Arizona border. Population 10,000. Has vacancy at hospital for GP. Contact Carl H. Gans, M.D., Morenci Hospital, Morenci, Ariz.

PAGE — Population growing by leaps and bounds at the site of the new Glen Canyon Dam project. Current estimates are 6,000 to 8,000 total. Only one M.D. is now located in

Page and he has facility available. Located about 90 miles north of Flagstaff, Ariz., the building project is estimated to be concluded in 10 years. Write Ivan W. Kazan, M.D., 6th Ave. & S. Navajo, Page, Ariz., for full details.

SAFFORD — Graham County Health Department in need of an M.D. In the heart of the cattle and farming areas of southeastern Arizona. Population of 10,500, elevation is 2,920 feet. Schools, churches and social facilities are numerous. Contact Mr. Vearl Lines, chairman, Graham County Board of Supervisors, Safford, or Frederick W. Knight, M.D., 618 Central Ave., Safford, Ariz.

SPRINGERVILLE — Urgent need for M.D. Population 2,000 (Springerville and Egar). Beautiful country. Hunting and fishing. Medical building for sale or lease. Contact Ellis V. Browning, M.D., Box 390, Springerville, Ariz.

ST. JOHNS — Seriously need a doctor of medicine, preferably a GP, in this east-central Arizona community. Population is approximately 1,500 with several other small towns in the general area. About 20 miles from New Mexico in the beautiful rim country of Arizona. Contact Donald F. DeMarse, M.D., Box 397, Holbrook, Ariz.

TOLLESON — In need of GP. Serves a trading population of from 12,000 to 15,000. Ten miles west of Phoenix, with elementary and high schools, churches of all denominations. Complete office and equipment for GP is available on reasonable term lease or purchase. Contact Mr. F. E. Babcock, president, Chamber of Commerce. 9112 West Van Buren St., Tolleson, Ariz.

TUCSON — The VA Hospital is in urgent need of an orthopedic surgeon. They prefer someone who is board certified, but would take someone who has had special training as they have the local men in this field available for consultation service. State license is necessary (but not necessarily an Arizona license). Contact S. Netzer, M.D., Director, Professional Service, VA Hospital, Tucson, Ariz.

WINSLOW — Population over 7,500. Good opportunity for GP. Arrangements can be made to take over existing vacancy in practice. Facilities quite desirable and satisfactory terms can be arranged to suit any financial circumstance. Hospital privileges immediately available. County work also available at $500 per month, plus lab and X-ray. For further details, contact Donald F. DeMarse, M.D., Box 397 Holbrook, Ariz., or Mr. Paul Gear, County Supervisor, Court House, Holbrook, Ariz.

FOR INFORMATION ON OPPORTUNITIES IN THE FIELD OF INDUSTRIAL MEDICINE, CONTACT:

Harold J. Mills, M.D., Phelps Dodge Hospital, Ajo, Ariz.

Carl H. Gans, M.D., Phelps Dodge Hospital, Morenci, Ariz.

Ira E. Harris, M.D., Miami Inspiration Hospital, Miami, Ariz.

Charles B. Huestis, M.D., Box 928, Hayden, Ariz.

Elvie B. Jolley, M.D., Copper Queen Hospital, Bisbee, Ariz.

H. W. Finke, M.D., Magma Copper Company Hospital, Superior, Ariz.

John Edmonds, M.D., Kennecott Copper Corporation Hospital, Ray, Ariz.

Francis M. Findlay, M.D., San Manuel Hospital, San Manuel, Ariz.

LOCATION INQUIRIES

ANDERSON, EUGENE GRANGER, M.D., 6817 S. Ridgeland Ave., Chicago, Ill.; *I;* 1956 graduate of the University of Chicago; interned at Charity Hospital in New Orleans, La.; served residency at Tulane University Charity Hospital and University of Chicago; holds license in states of Louisiana and Illinois; married; age 32; interested in group or private practice; available approximately July 1960.

BONNINGTON, WILLIAM R., M.D., Sacramento County Hospital, Sacramento, Calif.; *GP;* Graduate of University of California 1957; interned at Madigan Army Hospital, Tacoma, Wash.; served residency at Sacramento County Hospital in California; fulfilled military obligations; holds license in state of California; married; age 31; interested in general or associate practice; available July 1959.

CAMPBELL, WAYNE LEIGH, M.D., County Hospital, Sacramento, Calif.; *GP;* 1954 graduate of the University of Minensota; interned at St. Lukes Hospital, Duluth, Minn.; served residency at Sacramento County Hospital; military obligagations fulfilled; holds license in states of Minnesota and California; single; age 30; interested in general, group or associate practice; available

when pollen allergens attack the nose...

Triaminic provides more effective therapy in respiratory allergies because it combines two antihistamines[1,2] with a decongestant.

These antihistamines block the effect of histamine on the nasal and paranasal capillaries, preventing dilation and exudation.[3] *This is not enough;* by the time the physician is called on to provide relief, histamine damage is usually present and should be counteracted.

The decongestive action of orally active phenylpropanolamine helps contract the engorged capillaries, reducing congestion and bringing prompt relief from nasal stuffiness, rhinorrhea, sneezing and sinusitis.[4,5]

TRIAMINIC is orally administered, systemically distributed and reaches *all* respiratory membranes, avoiding nose drop addiction and rebound congestion.[6,7] TRIAMINIC can be prescribed for prompt relief in summer allergies, including hay fever.

References: 1. Sheldon, J. M.: Postgrad. Med. **14**:465 (Dec.) 1953. 2. Hubbard, T. F. and Berger, A. J.: Annals Allergy p. 350 (May-June) 1950. 3. Kline, B. S.: J. Allergy **19**:19 (Jan.) 1948. 4. Goodman, L. S. and Gilman, A.: Pharmacol. Basis Ther., Macmillan, New York, 1956, p. 532. 5. Fabricant, N. D.: E.E.N.T. Monthly **37**:460 (July) 1958. 6. Lhotka, F. M.: Illinois M.J. **112**:259 (Dec.) 1957. 7. Farmer, D. F.: Clin. Med. **5**:1183 (Sept.) 1958.

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TRIAMINIC provides around-the-clock freedom from hay fever and other allergic respiratory symptoms with just one tablet q. 6-8 h. because of the special timed-release design.

Each TRIAMINIC timed-release tablet provides:

Phenylpropanolamine HCl	50 mg.
Pheniramine maleate	25 mg.
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Also available: TRIAMINIC SYRUP for those patients of all ages who prefer a liquid medication. Each 5 ml. teaspoonful is equivalent to ¼ Triaminic Tablet or ½ Triaminic Juvelet. TRIAMINIC JUVELETS provide half the dosage of the Triaminic Tablet with the same timed-release action for prompt and prolonged relief.

STOP *running noses* *and open stuffed noses orally*

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July 1959.

COLLOPY, BERNARD JAMES, M.D., 1136 Westmoreland Ave., Norfolk, Va.; *GP;* 1955 graduate of Creighton University; interned at U. S. Public Health Service Hospital in New Orleans, La.; served residency at U. S. Public Health Service Hospital in Norfolk, Va.; military obligations fulfilled; holds license in state of Louisiana; married; age 31; interested in general, group or associate practice; available July 1959.

DRAUGHON, CLYDE W., M.D., McGuire Hospital, Box 27, Richmond 19, Va.; *GS;* 1954 graduate of Oklahoma University School of Medicine; interned at Oklahoma General Mercy Hospital in Oklahoma City, Okla.; served residency at VA Hospital in Oklahoma City, Okla.; military obligations fulfilled; holds license in state of Oklahoma; married; age 35; interested in clinic, industrial, assistant, associate or institutional practice; available July 1959.

GOODILL, FREDERICK KENNETH, M.D., 245 Garrison Ave., Staten Island, N. Y.; *GP;* 1956 graduate of the University of Pennsylvania; interned at Colorado General Hospital, Denver, Colo.; served residency at U. S. Public Health Service, Staten Island, N. Y.; military obligation will be completed October 1959; holds license in state of Pennsylvania; married; age 29; interested in group or associate practice; available October 1959.

GRATZ, RAY J., M.D., 1930 Oakdale Ave., Richmond, Va.; *GP* and *TS;* 1951 graduate of Washington University, St. Louis, Mo.; interned at George Washington University Hospital in Washington, D. C.; served residency at the Brooklyn Hospital, Brooklyn, N. Y. and the VA Hospital in Richmond, Va.; military obligations fulfilled; holds license in state of Missouri; married; age 35; interested in clinic or associate practice; available July 1959.

KILLELEA, DONALD JOSEPH, M.D., 417 Addison Rd., Riverside, Ill.;*R;* 1953 graduate of Stritch School of Medicine, Chicago; interned at Army and Navy Hospital, Hot Springs, Ark.; served residency at Hines VA Hospital, Hines, Ill.; military obligations fulfilled; holds license in state of Illinois; married; age 34; interested in group, private or associate practice; available July 1959.

LOERY, WILLIAM H., M.D., 83 Taylor St., Staten Island 10, N. Y., N. Y.; *Path;* 1945 graduate of Cornell University Medical College; interned at Boston City Hospital; served residency at University Hospital in New York City and Columbia-Presbyterian Medical Center in New York City; military obligations fulfilled; holds license in states of New York and New Jersey; married; age 38; available July 1959.

MANFRE, ANTHONY S., M.D., 3525 Avenue S, Galveston, Texas; *GP-S;* 1959 graduate of University of Texas Medical Branch; interned at Mercy Hospital, Buffalo, N. Y.; eligible for military service under Doctor Draft Act; married; age 28; interested in private or associate practice; available July 1960.

ROYA, RAY, M.D., 1222 N. Kedzie Ave., Chicago 51, Ill.; *GP-S;* 1944 graduate of Medical Faculty — University Jena Keyomacira, Poland; interned and served residency at St. Anthony de Padra Hospital in Chicago; military status IA; holds license in state of Illinois; single; age 44; interested in general or industrial practice; available immediately.

SMITH, ROBERT ELMER, M.D., 612 Blenheim, Columbus 14, Ohio; *Anes;* 1952 graduate of New York University College of Medicine; interned at University Hospital, Ann Arbor, Mich.; served residency at Ohio State University Hospital, Columbus, Ohio; military obligations fulfilled; holds license in state of Michigan; married; age 32; interested in group, private, assistant or associate practice; available October 1959.

SOLOMONSON, CARL EDWARD, M.D., 8700 W. Wisconsin Ave., Milwaukee 13, Wis.; *I;* 1953 graduate of George Washington University; interned at Ohio State University; served residency at Milwaukee County General Hospital; military obligations fulfilled; holds license in states of Ohio and Wisconsin; single; age 30; interested in group or associate practice; available July 1959.

TEPPER, SIDNEY M., M.D., 251 S. Fifth Ave., El Centro, Calif; *ObG;* 1938 graduate of the University of Illinois; interned at Cook County Hospital in Chicago; served residency at Cook County and University Hospitals in Chicago; military obligations fulfilled; holds license in state of Illinois; married; age 44; interested in institutional practice; available in 1960.

New

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Future Meetings

ROCKY MOUNTAIN CANCER CONFERENCE

THE ROCKY Mountain cancer conference is scheduled to be held in Denver, July 22-23, at the Brown Palace Hotel. This hotel is completely air-conditioned for your comfort. Our distinguished list of guest speakers includes the following:

J. Garrott Allen, M.D., surgeon, Chicago, Ill.; Benjamin Castlemann, M.D., pathologist, Boston, Mass.; James R. Heller, M.D., Director, National Cancer Institute, Bethesda, Md.; Louis T. Orr, M.D., urologist, Orlando, Fla.; Walter L. Palmer, M.D., internist, Chicago, Ill.; Eugene Pendergrass, M.D., radiologist, Philadelphia, Pa., and Edward H. Reinhard, M.D., internist, St. Louis, Mo.

U.S.C. — P.G. COURSE IN HONOLULU

LAST YEAR, the University of Southern California School of Medicine held a postgraduate refresher course in Honolulu. The course was so successful that we have decided to offer another course in Honolulu and on board the S. S. Lurline from July 29 through Aug. 15, 1959.

The course is set up so that the physician may elect to attend one of several programs. In this way, we feel that each physician may choose the topics which most meet his needs. In addition to lectures, there will again be workshops in ECG and X-ray diagnosis as well as water and electrolyte balance and the diagnosis of jaundice. Emphasis is placed on practical diagnosis and therapy.

The group will depart from Los Angeles via United Air Lines July 29 and return to Los Angeles Aug. 15 on the S. S. Lurline. As a time and money saver, physicians may elect to return by air arriving in Los Angeles Aug. 11, 1959. Afternoons, evenings and weekends are free so that the participating physicians and their families may enjoy the recreational facilities of the island.

26TH INTERNATIONAL CONGRESS AGAINST ALCOHOLISM

Stockholm
July 31-*Aug.* 5, 1960

THE 26th International Congress against Alcoholism will be held from July 31 to Aug. 6 in Stockholm, under the patronage of His Majesty King Gustaf VI Adolf. A Swedish organization committee under the presidency of Gov. Ruben Wagnsson is working on the detailed preparation of the congress. In co-operation with this committee, Prof. Leonard Goldberg and other leading Swedish experts on alcohol and alcoholism, are advising on the elaboration of the programme which will present the latest phases of all aspects of the question.

Great interest has already been shown in this event in all parts of the world, and a large international audience is expected.

SURGERY

POSTGRADUATE MEDICAL STUDY
May 18, 19, 20, 21, 1959

To be offered at The University of Kansas School of Medicine, Battenfeld Auditorium (Student Center-Continuation Study Bldg.), Rainbow Blvd. and Olathe, Kansas City, Kan.

Fee

A fee of $60 is charged to help cover the program and administrative costs of the course. Partial enrollment for one, two or three days is accepted at a fee of $17.50, $33 and $50 respectively. Please make checks payable to the University of Kansas. Complimentary enrollment is granted to internes and residents who present written identification by their hospital superintendents.

Send all communications to:

Department of Postgraduate Medical Education, University of Kansas School of Medicine, Kansas City 12, Kan.

CALENDAR OF NATIONAL MEETINGS

Date	*Meeting*	*Place*
June		
3-7	American College of Chest Physicians	Atlantic City, N. J.
4-5	American Geriatrics Society	Hotel Traymore, Atlantic City, N. J.
4-6	The Endocrine Society	Chalfonte-Haddon, Atlantic City, N. J.
4-7	American Medical Women's Ass'n.	Sheraton Ritz Carlton, Atlantic City, N. J.
8-12	American Medical Association	Traymore Hotel, Atlantic City, N. J.
July		
4-9	American Society of X-ray Technicians	Shirley Savoy Hotel, Denver, Colo.
22-23	Rocky Mountain Cancer Conference	Brown Palace Hotel, Denver, Colo.
23-30	International Congress of Radiology	Munich, Germany
August		
10-13	National Medical Association	Detroit, Mich.
30 - Sept. 4	World Conference on Medical Education	Palmer House, Chicago, Ill.
September		
6-12	College of American Pathologists	Chicago, Ill.
7-12	World Medical Association	Montreal, Canada
11-12	International Cong. on Air Pollution	New York City
28 - Oct. 2	American Coll. of Surgeons Clinical Cong.	Chicago, Ill.
October		
2-3	American Medical Writers' Ass'n.	St. Louis, Mo.
19-23	American Public Health Ass'n.	Conv. Hall, Atlantic City, N. J.

Women's Auxiliary

AMERICAN MEDICAL EDUCATION FOUNDATION

SINCE 1951 the American Medical Education Foundation has raised more than $7 million and distributed it to the nation's medical schools in unrestricted grants which have helped to maintain our present day high standards of medical education and practice. The Women's Auxiliary's support of American Medical Education Foundation has resulted in contributions totaling over $470,000.

The Women's Auxiliary continues to put American Medical Education Foundation at the head of its list of activities knowing full well what an important part it plays in keeping our medical schools at their high standard.

There are just 85 medical schools in the United States training future doctors of medicine. They are located in 61 cities in 40 states; the District of Columbia and Puerto Rico.

One of the most interesting portions sent out in the past year's progress report is the following description of what the medical schools do today:

Teach 29,334 undergraduate medical students, of whom approximately 7,000 per year will graduate.

Instruct 62,964 other students — that is interns, residents, practicing physicians, research scientists and dental, pharmacy and nursing students.

Serve approximately 37,000 family doctors, health officers, hospital staff members, specialists and other practitioners through short courses.

Provide 2.4 million men, women and children with free medical care valued at $120 million, through associated teaching hospitals and clinics.

Conduct research projects costing more than $60 million for corporation governmental agencies, hospitals and foundations — plus the basic research financed by teaching budgets.

Maintain a steady flow of new health and medical knowledge through books, pamphlets, professional journals, magazines and news services.

Furnish though their faculty members, leadership and guidance for thousands of health agencies, organizations and foundations.

It is clear from this report what a worthwhile project we are supporting when we, as an auxiliary, support the American Medical Education Foundation.

Not only did our auxiliary contributions top all previous gifts to the American Medical Education Foundation, but for the first time our grand total of $126,366.68 included contributions from every constituent auxiliary in our nation. Last year the Arizona auxiliary contributed $1,386.68 and was second runner-up with 2.39 per capita.

This year of 1958-1959 the national goal is *$160,000* and we in Arizona have just been given a quota of *$1,500* by national. Each organized county is working hard to support this work. We, of course need and would appreciate any assistance from our members at large, also.

The "Memorial," "In Appreciation," and "All Purpose" cards are well used in raising funds as well as rummage sales, auctions, fashion teas, etc. A new idea this year, "Penny a Pound" or "Put *all* your weight toward AMEF" has proved successful in some of our counties.

Let us push forward with our assistance and keep ever before us the very worthy and needed cause we are supporting.

MRS. HENRY A. HOUGH,
State AMEF Chairman

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